



Illinois Department of Transportation

Memorandum

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STUDIES & PLANS

APR 17 '03

S&P ENG	TS	
ENVIRONMENT		
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HYDRAULIC	X	SF
LOCATIONS		
PLANS ENG		
SEE ME		
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CO-ORD		

To: Diane M. O'Keefe Attn: Thomas Sancken
From: Ralph E. Anderson By: Todd E. Ahrens
Subject: BRIDGES AND STRUCTURES
Date: April 10, 2003

Todd E. Ahrens

FAP Route 627
Section U-BR
LaSalle County

P-93-047-02
SN 050-0030 (Existing)

IL Route 71 over unnamed creek

We have received the Consultant prepared Bridge Condition report (BCR) submitted with your memorandum dated March 10, 2003. The BCR recommends complete structure replacement using stage construction.

After reviewing the BCR we have the following comments:

1. Based on the deteriorated condition of the existing structure we agree with the recommendation of complete replacement. Stage construction appears feasible. We agree with the recommended bridge clear width of 32'-0".
2. Replacement structure type, length, number and location of piers, low beam, profile grade, and location relative to existing structure subject to approval of the Hydraulic Report and review during the TSL plan phase of the project.
3. Foundation borings will be required for this project. Guidelines for locating structure borings can be found in Section 1.2 of the Departments Geotechnical Manual. Please contact our Foundation Unit if additional assistance is required.

Subject to the above comments, the Bridge Condition Report is approved. A Type, Size, and Location (TSL) plan will be required for this project. Please submit soil borings, structure report, proposed cross section and proposed plan and profile so that our office may begin work to complete these plans.

GGE/ms2628

Copy to Hall File # 1306-101 6/13/03
Copy to D. Luskari 6/13/03
Copy to Willett, Hoffman "
Copy to C. McCarter "
Copy to Found. 6/18/03



ILLINOIS DEPARTMENT OF TRANSPORTATION

BRIDGE CONDITION REPORT

ROUTE: FAP 627 (IL 71)

SECTION: U-BR

COUNTY: LASALLE

EXIST. S.N.: 050-0030

PROP. S.N.: NOT ASSIGNED

CONTRACT NO.: NOT ASSIGNED

CATALOG NO.: NOT ASSIGNED

JOB NO.: P-93-047-02

**LOCATION: ILLINOIS ROUTE 71
OVER STREAM**

Prepared By

WILLET, HOFMANN & ASSOCIATES, INC.

Consulting Engineers

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Phone: 815/284-3381 Fax: 815/284-3385

E-mail: wha@essex1.com

FINAL

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GEOGRAPHICAL AND ADMINISTRATIVE DESCRIPTION

The existing structure, Structure Number 050-0030, is located in LaSalle County, 5.9 miles east of IL Route 178. The structure carries IL Route 71 over an intermittent stream. The centerline of the existing bridge is at Station 99+40. See Exhibit 1 for location map.

IL Route 71 carries two-way traffic and is not a designated truck route. The traffic data is as follows:

Class	Minor Arterial (Rural)
ADT	1200 (2001) 1700 (2021)
ADTT	62 (2001) 88 (2021)
DHV	264 (2001) 374 (2021)
Design Speed Limit	55 mph
Posted Speed Limit	55 mph
Passenger Vehicles	94.8 %
Single Units	4.2 %
Multiple Units	1.0 %

Structure number 050-0030, constructed in 1969, is a 2-span precast prestressed concrete deck beam structure, on a reinforced concrete pier and closed concrete abutments, all on spread footings set in rock. The structure is skewed 30° right ahead. The bridge deck has a bituminous wearing surface. The structure is not the first structure at this site, however, the previous bridge was located approximately 35' west of the current structure. When the current structure was constructed, the upstream channel was changed to better align with the roadway. The 1969 bridge drawings are included in Appendix B.

From the July 9, 2001 Illinois Structure Information System Master Report, the following information is summarized:

Sufficiency Rating	67.2
HS Truck Inventory Rating	28.1
HS Truck Operating Rating	45.2

This bridge has been tested and confirmed to contain no asbestos in the wearing surface. It is on the waived list for IEPA notification for asbestos. See test results in Exhibit B.

Refer to Appendix B for a copy of the Bridge Inspection Report and inventory data.

PHYSICAL DESCRIPTION OF EXISTING STRUCTURE AND ROADWAY

The existing structure consists of two spans of approximately 29'-6" centerline to centerline of bearing, measures 61'-8" back to back of abutments and is skewed 30° right ahead. The superstructure consists of precast, prestressed concrete deck beams. The wearing surface is a 1½" bituminous overlay. The deck beams are supported by a reinforced concrete pier and closed concrete abutments all on spread footings, set in rock. The design loading shown on the existing plans is HS 20.

The existing deck measures 44'-0" face to face of concrete rail and 46'-6" out to out of concrete rail. The deck cross section consists of 10-17" x 48" and 2-17" x 36" precast, prestressed concrete deck beams with a bituminous overlay wearing surface. A concrete bridge rail is attached to the exterior deck beams. There are deck drains in the base of the concrete rail at 10'± centers, on both sides of the deck.

The precast, prestressed concrete deck beams are simply supported and fixed at the pier and both abutments. The joint between the deck beams at the pier is filled with preformed joint filler, and there are no expansion joints on the bridge.

The closed concrete abutments are pinned top and bottom and have vertically cantilevered concrete wing walls, all of which are on a reinforced concrete spread footing set in rock.

The pier consists of a reinforced concrete cap and stem on a reinforced concrete spread footing set in rock.

The approach roadway is rural and consists of two 12' bituminous concrete lanes on an aggregate base with 10' (3' aggregate and 7' earth) shoulders. The overall roadway width is 44'-0" out to out of shoulders. Guardrail exists at all four corners of the structure. According to the 1969 plans, the bridge is on a 0% grade with vertical curves in the approach roadway on each side. The bridge is in a tangent section with a 4° 36' horizontal curve 360.4' long just east of the structure. The existing plan and profile and roadway typical sections are shown in Appendix A.

FIELD INSPECTION AND PHYSICAL EVALUATION

General

The bridge was inspected on April 11, 2002. Field inspection sketches showing the existing conditions of the top of deck, underside of deck and superstructure are shown in Appendix C. Site photographs of the existing conditions are shown in Appendix D.

Deck and Superstructure

The Illinois Structure Information System Master Report rates the deck as 4 – “poor condition – advanced deterioration” and the superstructure as 4 – “poor condition – advanced deterioration”. The master report also notes in the inspection remarks “Deck beams have several spalls with exposed rebar and rust staining. Also some exposed strands. Keyways leaking with stalactites.”

The bituminous wearing surface is in fair to poor condition. There is map cracking throughout the entire deck that has been sealed with tar, however, there are no potholes or patches on the surface. Many of the cracks are at the beam joints, indicating failure of the keyway.

The concrete rail is in good condition. The bases of both rails have map cracking and delaminations at the pier joint and at both abutments. The remainder of the rail is in good condition.

The deck beams are in poor condition. There is much spalling with exposed rebar and some exposed strands. There is also a great deal of delamination and moisture staining on the beams and the keyways have stalactites, indicating that they have been leaking.

The joints are in poor condition. The joints at both abutments and the pier have been sealed with tar, but appear to have been leaking, causing some of the beam deterioration as well as the substructure concrete deterioration discussed later in this report. There is much moisture staining at both abutments and the pier.

The approach roadway is in good condition. There is little cracking in the overlay and the riding quality is good at both abutments.

Substructure

The Illinois Structure Information System Master Report rates the substructure as 6 – “satisfactory condition – minor deterioration.” The master report also notes in the inspection remarks “Spalls with exposed rebar and large delaminated area in pier cap.”

Abutments and Wingwalls

The abutments and wingwalls are in good to fair condition. There is moisture staining on the abutment seats and walls due to the leaking superstructure and keyway joints. Some minor spalls, cracks and delaminated areas are present. There are several hairline cracks on the abutment walls extending beyond the water and or ground line. The wingwalls are in good condition with little or no cracking or delaminations.

Pier

The pier is in fair condition. There is moisture staining on the pier seat and both faces of the pier, spalling and delamination on the seat and cracks with leaching and rust stains on both faces.

Waterway / General Hydraulics

The Illinois Structure Information System Master Report rates the waterway adequacy as 5 – “better than adequate to be left in place” and the channel and protection as 5 – “fair condition”. The master report also notes in the inspection remarks “east bay silted in”.

The structure is skewed 30° right ahead and is in good alignment with the upstream channel. The stream flows from south to north through a relatively well-defined channel and the bridge, then flows east to west parallel to the roadway. The channel was realigned during construction of the existing bridge, and the channel bottom was constructed from face of abutment to face of abutment. The bridge has silted in over the years, and the main channel now runs along the face of the west abutment. There is no channel protection.

A hydraulic report on this structure was completed in October 2002. The report indicates the 50-year high water elevation is 466.03, resulting in no freeboard at the structure. The report also indicates that potential scour is minimal for the structure. There is no visible evidence of scour, other than the aggradation mentioned previously.

SUMMARY STATEMENT AND PROPOSED SCOPE OF WORK

Summary

The superstructure is in poor condition with extensive cracking in the overlay, leaching in the keyways under the deck and delamination, moisture stains and spalls with exposed rebar and prestressed strands on the underside of the deck beams.

The substructure is in fair condition. There is moisture staining and cracking, at both abutments and moisture staining, cracking, delamination and spalling at the pier.

Alternates

Cost Estimates were prepared for a superstructure replacement project and two bridge replacement projects. According to IDOT 3R policies, the existing deck width exceeds minimum requirements for rural bridges utilizing structurally sound elements of existing bridges and the requirements for structures to be replaced. The proposed structure widths for all three alternates are 35'-2" out-out of structure. The three alternates are described as follows:

Alternate 1

The bridge superstructure and pier would be replaced and the abutments would be repaired. The new superstructure would consist of a continuous reinforced concrete slab. The superstructure would remain fixed at the abutments and pier.

The pier would be replaced due to an increase in dead load of nearly 82%. The increase in dead load would be due to the change from simple spans to continuous spans and the additional weight of a concrete slab versus the deck beams. The new pier would consist of piles set in rock, encased in a reinforced concrete stem with a reinforced concrete cap, integral with the new slab.

The change to continuous spans would result in an increase in dead load at the abutments of only 9%, therefore, they may be re-used without evaluation.

Formed concrete repair and epoxy crack sealing would be required at both abutments. Temporary bracing or removal of pressure caused by fill behind the abutments would be required at both abutments prior to removal of the existing superstructure and should remain until after the new superstructure is poured and has properly cured.

The low beam would be raised approximately two inches to raise the existing grade across the structure slightly and allow for future overlays of the approach roadway. This may require a variance because there is no freeboard at the structure. Requesting a variance is recommended because the existing roadway is located in the floodplain of the Illinois River, is very flat with good site distance and there are no records of maintenance problems caused by flooding at the site.

It is assumed that the approach roadway would be completely cored and replaced with bridge approach pavement and aggregate base, bituminous base and bituminous surface for a distance of 100' each way from the bridge and overlaid with milled butt joints another 100' each way from the bridge.

A reinforced concrete slab was chosen due to the short spans and the low profile of the existing structure. Use of concrete I-beams or steel I-beams supporting a reinforced concrete deck would

require a significant grade increase, additional approach roadway work and would reduce sight distance at the structure.

Alternate 2

The superstructure and substructure would be completely removed and replaced with a two span reinforced concrete slab on closed concrete abutments and a pile bent pier. The new structure would be moved five feet west and the spans increased to 32', to avoid interference with the existing substructure and improve the hydraulics.

The proposed slab would be continuous over the pier and the low beam elevation raised approximately two inches to raise the existing grade across the structure slightly and allow for future overlays of the approach roadway. This may require a variance because there is no freeboard at the structure. Requesting a variance is recommended because the existing roadway is located in the floodplain of the Illinois River, is very flat with good sight distance and there are no records of maintenance problems caused by flooding at the site.

The new pier would consist of piles set in rock, encased in a reinforced concrete stem with a reinforced concrete cap, integral with the new slab.

The new abutments would be reinforced concrete with vertical cantilever wingwalls all on spread footings set in rock.

The structure would be built with integral abutments and an integral pier to eliminate joints on the bridge.

It is assumed that the approach roadway would be completely cored and replaced with bridge approach pavement and aggregate base, bituminous base and bituminous surface for a distance of 100' each way from the bridge and overlaid with milled butt joints another 100' each way from the bridge.

A reinforced concrete slab was chosen due to the short spans and the low profile of the existing structure. Use of concrete I-beams or steel I-beams supporting a reinforced concrete deck would require a significant grade increase, additional approach roadway work and would reduce sight distance at the structure.

Alternate 3

The superstructure and substructure would be completely removed and replaced with a two span reinforced concrete slab on spill thru, pile bent abutments and a pile bent pier. The new structure would be moved five feet west to avoid interference with the existing substructure and improve the hydraulics.

The proposed slab would be continuous over the pier and the low beam elevation raised approximately one inch to raise the existing grade across the structure slightly and allow for future overlays of the approach roadway. This may require a variance because there is no freeboard at the structure. Requesting a variance is recommended because the existing roadway is located in the floodplain of the Illinois River, is very flat with good sight distance and there are no records of maintenance problems caused by flooding at the site.

The new pier would consist of piles set in rock, encased in a reinforced concrete stem with a reinforced concrete cap, integral with the new slab.

The new abutments would consist of piles set in rock, a reinforced concrete cap and riprapped slopewalls with 2:1 slopes at right angles to the stream.

The structure would be built with integral abutments and an integral pier to eliminate joints on the bridge.

It is assumed that the approach roadway would be completely cored and replaced with bridge approach pavement and aggregate base, bituminous base and bituminous surface for a distance of 100' each way from the bridge and overlaid with milled butt joints another 100' each way from the bridge.

A reinforced concrete slab was chosen due to the short spans and the low profile of the existing structure. Use of concrete I-beams or steel I-beams supporting a reinforced concrete deck would require a significant grade increase, additional approach roadway work and would reduce sight distance at the structure.

Recommendation

It is recommended that the existing bridge be completely removed and replaced with a two span structure on spill thru abutments (alternate 3) because it is less expensive than alternate 2 and the cost of replacing the superstructure and pier (alternate 1) is 51% of the cost of complete replacement. Also, the recommended structure will improve the hydraulics by increasing the overtopping return period from 20 years to 35 years, as discussed in the hydraulic report. Cost estimates and comparison are shown in Appendix E.

The new structure will have a clear roadway width from face to face of parapets of 32'-0". The superstructure will be a 20" reinforced concrete slab. The substructure will be composed of spill-thru pile bent abutments and a pile bent pier completely encased in reinforced concrete. All piles will be set in rock. The proposed bridge section is shown in Appendix A.

All existing guardrail will be removed and replaced. New traffic barrier terminals, type 1 special and type 6, will be installed at the guardrail ends and parapets, respectively.

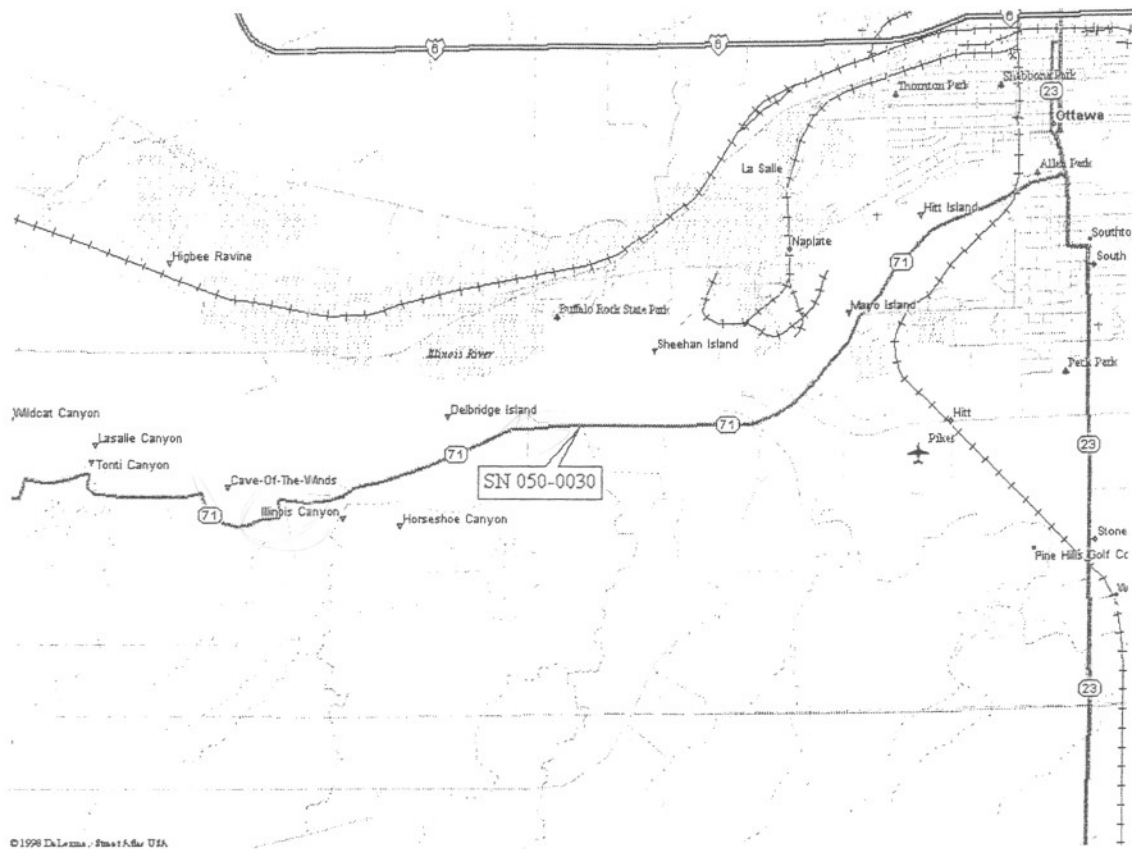
Bridge approach pavement will be constructed. The proposed roadway profile will be raised slightly to account for future overlays of the approach roadway and provide a small increase in the low beam elevation. The proposed roadway profile is shown in Appendix A.

Staged construction is feasible but is subject to further evaluation during the preliminary engineering phase. Traffic control costs, time of construction and road user benefits may be the deciding factors when choosing an alternate. Economics should be evaluated considering the additional construction time and costs associated with stage construction versus closing the road and detouring traffic. Staged construction cross sections are shown in Appendix E.

EXHIBIT 1

Location Map

LOCATION MAP



IL 71 5.90 MI. EAST OF IL 178
OVER STREAM

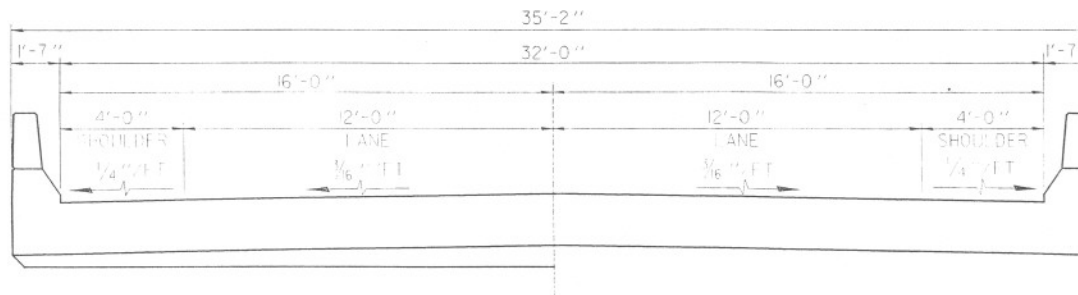
APPENDIX A

Existing and Proposed Bridge Cross Sections

Approach Roadway Typical Sections

Plan and Profile Sketches

Existing and Proposed Roadway Profiles

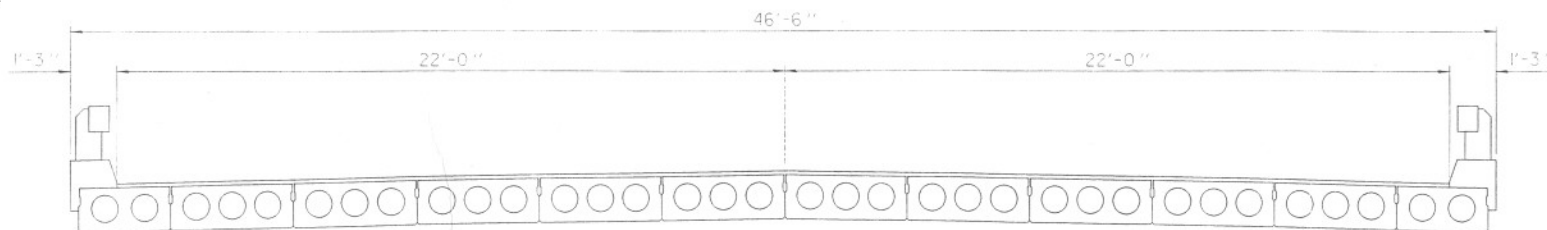


OVER PIER

MIDSPAN

PROPOSED

Note: The Proposed Slab Thickness Will Be Determined During The Development Of The TS&L Plan.



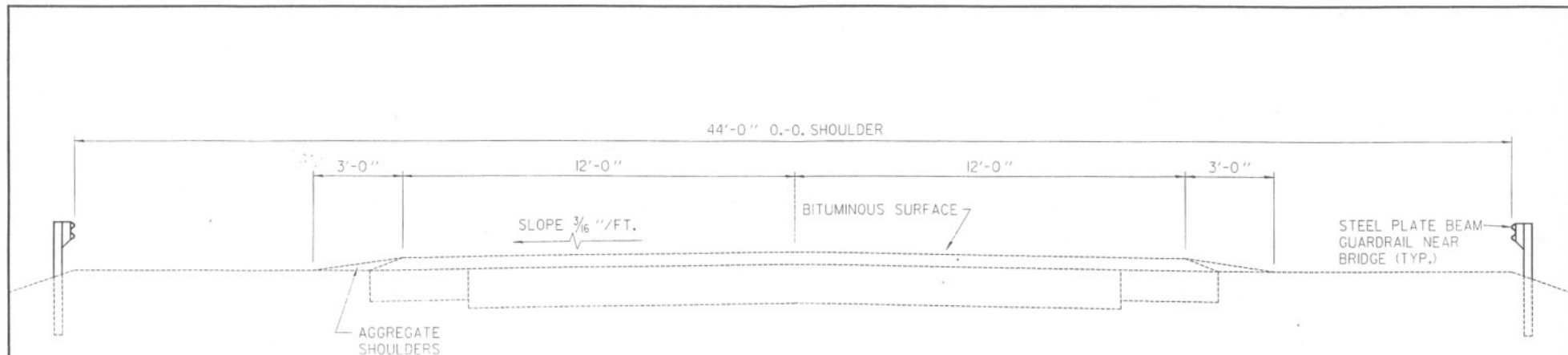
EXISTING

BRIDGE DECK CROSS SECTIONS

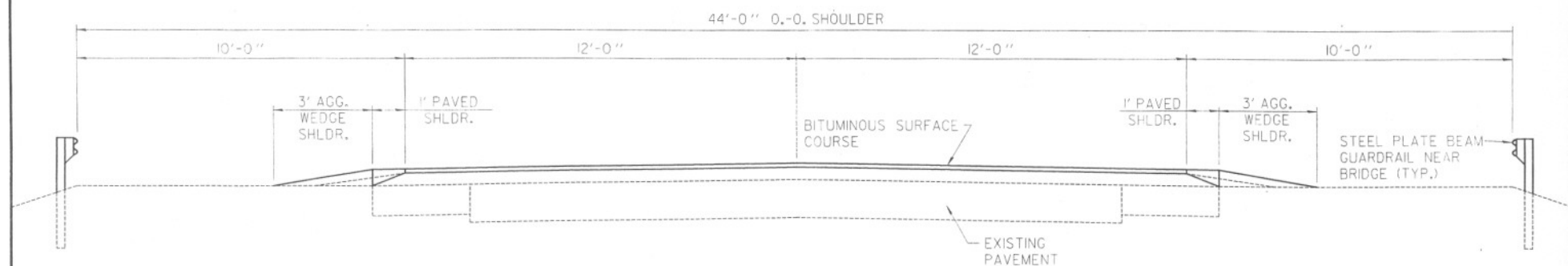
PLANS PREPARED BY
WILLET
HOFMANN &
ASSOCIATES, Inc.
 Consulting Engineers

F.A.P. ROUTE 627
 S.N. 050-0030
 LASALLE COUNTY
 IL. RTE 71 over STREAM

EXHIBIT
A1



EXISTING



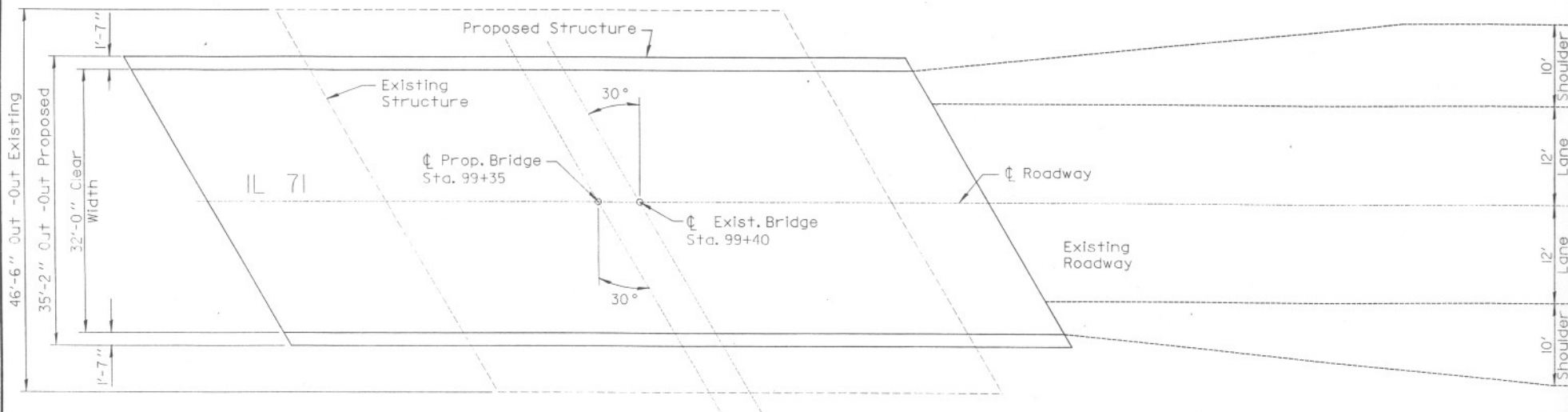
PROPOSED

APPROACH ROADWAY
TYPICAL SECTIONS

PLANS PREPARED BY
WILLETT
HOFMANN &
ASSOCIATES, Inc.
Consulting Engineers

F.A.P. ROUTE 627
S.N. 050-0030
LASALLE COUNTY
IL. RTE Clover STREAM

EXHIBIT
A2



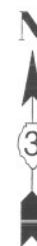
EXISTING & PROPOSED BRIDGE PLAN

Existing Structure:

A Two-Span (2 @ 29'-6") PPC Deck Beam Bridge On Closed Concrete Abutments And Reinforced Concrete Pier, All On Spread Footings. 46'-6" O.-O. Deck, 6'-8" Bk.-Bk. Abuts., Skewed 30° Right Ahead.

Proposed Structure:

A Two-Span (2 @ 40'-0") Reinforced Concrete Slab On Spill-Thru, Pile Bent Abutments And Pile Bent Pier, All Piles Set In Rock. 35'-2" O.-O. Deck 82'-10 5/8" Bk.-Bk. Abuts., Skewed 30° Right Ahead.

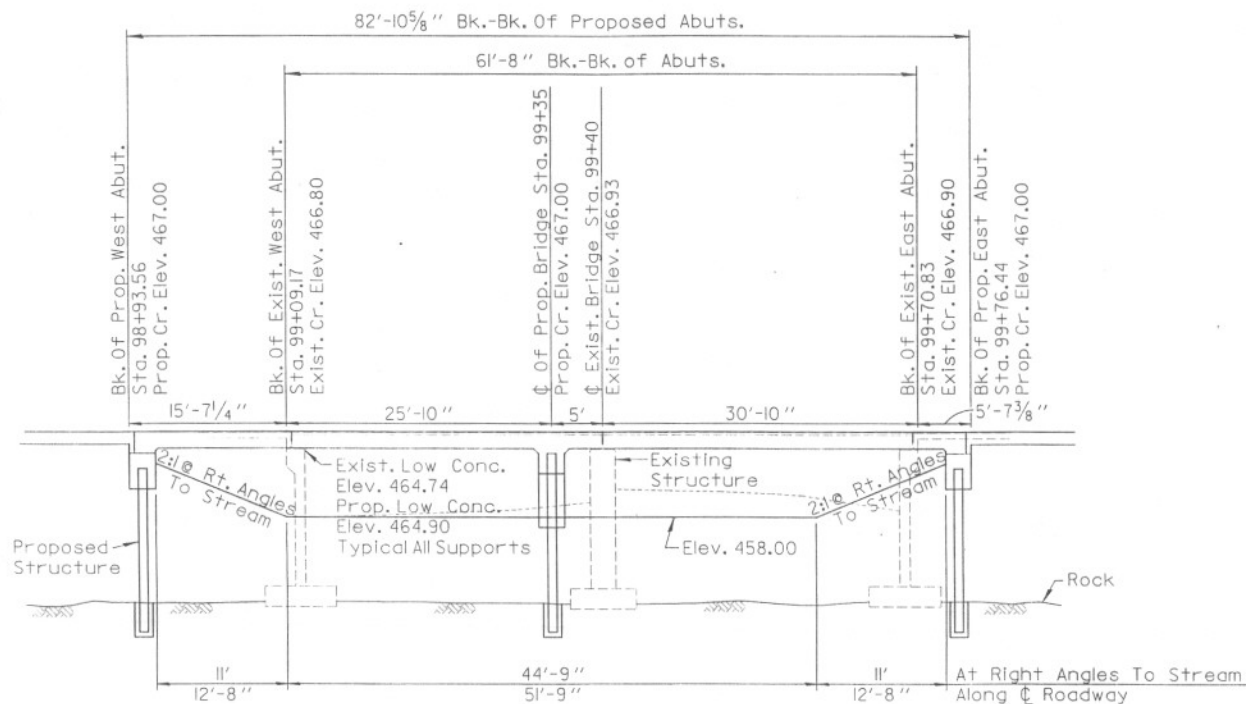


PLANS PREPARED BY
**WILLET
HOFMANN &
ASSOCIATES, Inc.**
Consulting Engineers

F.A.P. ROUTE 627
S.N. 050-0030
LASALLE COUNTY
IL. RTE 71 over STREAM

EXHIBIT

A3



EXISTING AND PROPOSED BRIDGE ELEVATION

(LOOKING NORTH)

Existing Structure:

A Two-Span (2 @ 29'-6") PPC Deck Beam Bridge On Closed Concrete Abutments And Reinforced Concrete Pier, All On Spread Footings, 46'-6" O.-O. Deck, 61'-8" Bk.-Bk. Abuts., Skewed 30° Right Ahead.

Proposed Structure:

A Two-Span (2 @ 40'-0") Reinforced Concrete Slab On Spill-Thru, Pile Bent Abutments And Pile Bent Pier, All Piles Set In Rock, 47'-2" O.-O. Deck 82'-10 5/8" Bk.-Bk. Abuts., Skewed 30° Right Ahead.

PLANS PREPARED BY

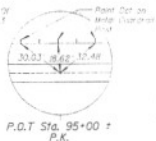
**WILLET
HOFMANN &
ASSOCIATES, Inc.**
Consulting Engineers

F.A.P. ROUTE 627
S.N. 050-0030
LASALLE COUNTY
IL. RTE 71 over STREAM

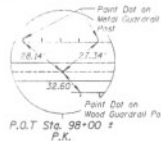
EXHIBIT

A4

Bench Marks: "10" On The SE Corner Of
Manhole 15 ft. of Sta. 97+00
Elev. = 467.90'

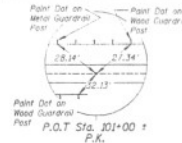


P.O.T. Sta. 95+00 ±
P.K.



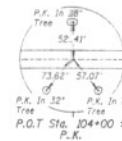
P.O.T. Sta. 98+00 ±
P.K.

Bench Marks: Chis. "10" On The SE Wingwall
Of Existing Bridge 26 ft. of
Sta. 99+00, Elev. = 467.36'



P.O.T. Sta. 101+00 ±
P.K.

Bench Marks: Railroad Spike In 12" Tree
N. Side of Ill. Rte. 71, 52' (1)
of Sta. 104+00, Elev. = 466.59'

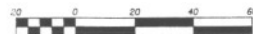


P.O.T. Sta. 104+00 ±
P.K.

ILLINOIS

ROUTE 71

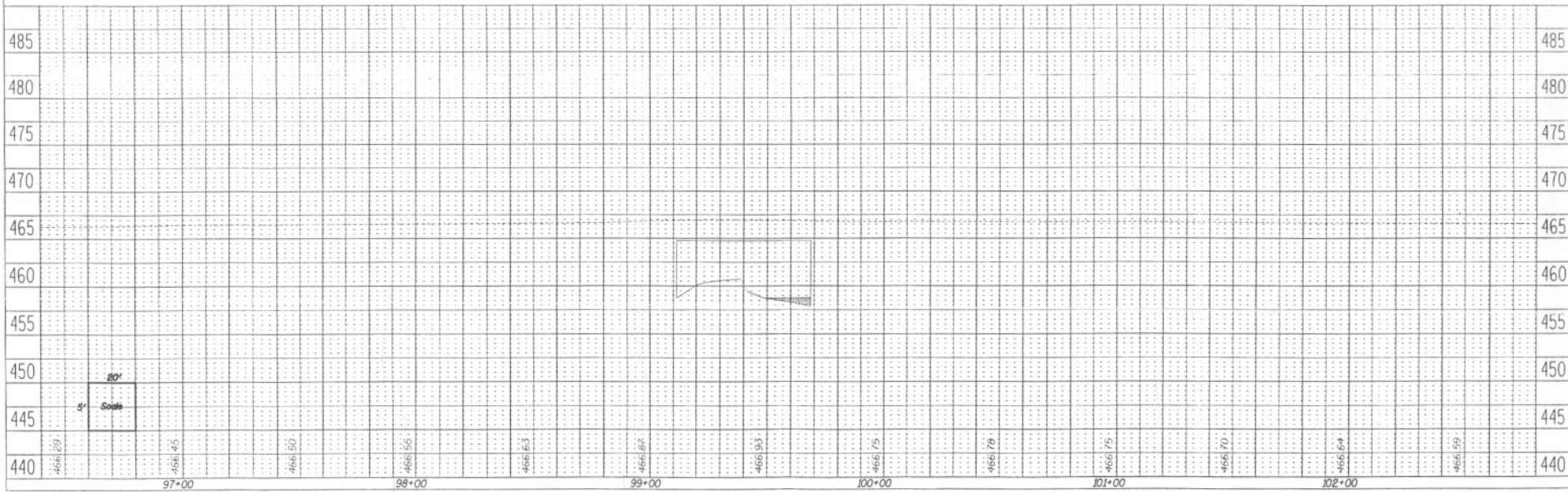
STREAM



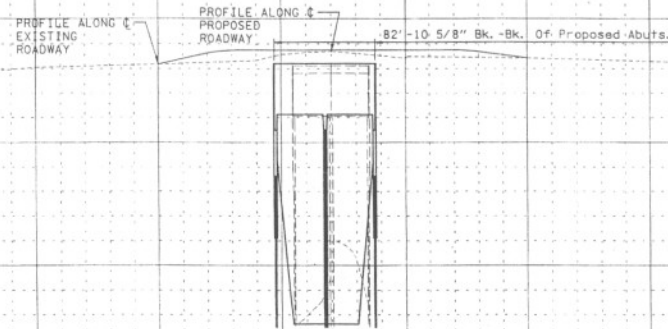
Scale 1" = 20'

EXISTING STRUCTURE S.N. = 050-00.30

A Two Span (2025'-6") RMC Deck
Beam Bridge At Sta. 91+40.
Stewed 30' Rt. Ahead.



F.A.P. ROUTE 627
S.N. 050-0030
LASALLE COUNTY
IL. RTE 71 over STREAM



SCALE
HORIZ. 1"=100'
VERT. 1"=4'

ROADWAY PROFILE

— PROPOSED ROADWAY PROFILE
- - - EXISTING ROADWAY PROFILE

WHA # 1212001

APPENDIX B

1969 Bridge and Roadway Plans

Structure Master Report

Bridge Inspection Report

Bridge Inspection Form, Pontis Format

Load Rating Information

Asbestos Testing Confirmation

FEEL 2-70
050-0920

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

*I-R, I-BR, U-BR

8	LA SALLE	44
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P 35-037-69 (I-R, I-BR)
P 35-037-69 (U-BR)

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- 2303-1 Traffic Control & Protection
- 2304-1 Traffic Control & Protection
- 2305-1 Traffic Control & Protection
- 2306-1 Traffic Control & Protection
- 2307-1 Traffic Control & Protection
- 2308-1 Traffic Control & Protection
- 2309-1 Traffic Control & Protection
- 2310-1 Traffic Control & Protection
- 2311-1 Traffic Control & Protection
- 2323 Pavement Joints

7A

SCALE IN FEET
PLAN 1"=100' 50' 100' PROFILE VERT. SEE SHEET

F.A. ROUTE 8 (SBI ROUTE 7A)
SECTION I-R, I-BR, & U-BR

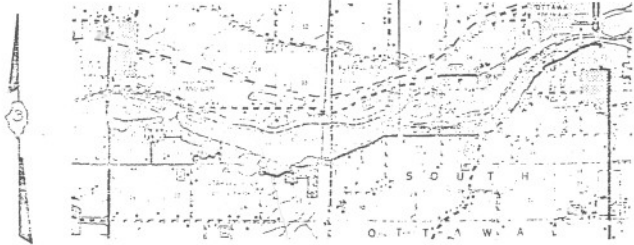
LA SALLE COUNTY
C93-069-69



HIGHWAY CLASSIFICATION
251 (90) - C-2-95 (BIT-20)

SECTION I-R
STA. 7+00.00 TO STA. 13+84.05
STA. 14+54.75 TO STA. 24+34.75
SECTION I-BR
BRIDGE STRUCTURE
STA. 13+84.05 TO STA. 14+54.75

SECTION U-BR
STA. 25+50 TO STA. 102+50
BRIDGE STRUCTURE
STA. 25+50 TO STA. 26+50



SCALE 1"=1 MILE

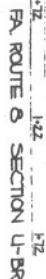
GROSS LENGTH = NET LENGTH
SECTION I-R 167.85 FT = 0.300 MILE
SECTION I-BR 4168 FT = 0.008 MILE
SECTION U-BR 70000 FT = 0.133 MILE

STA. 24+34.75 TO STA. 25+50

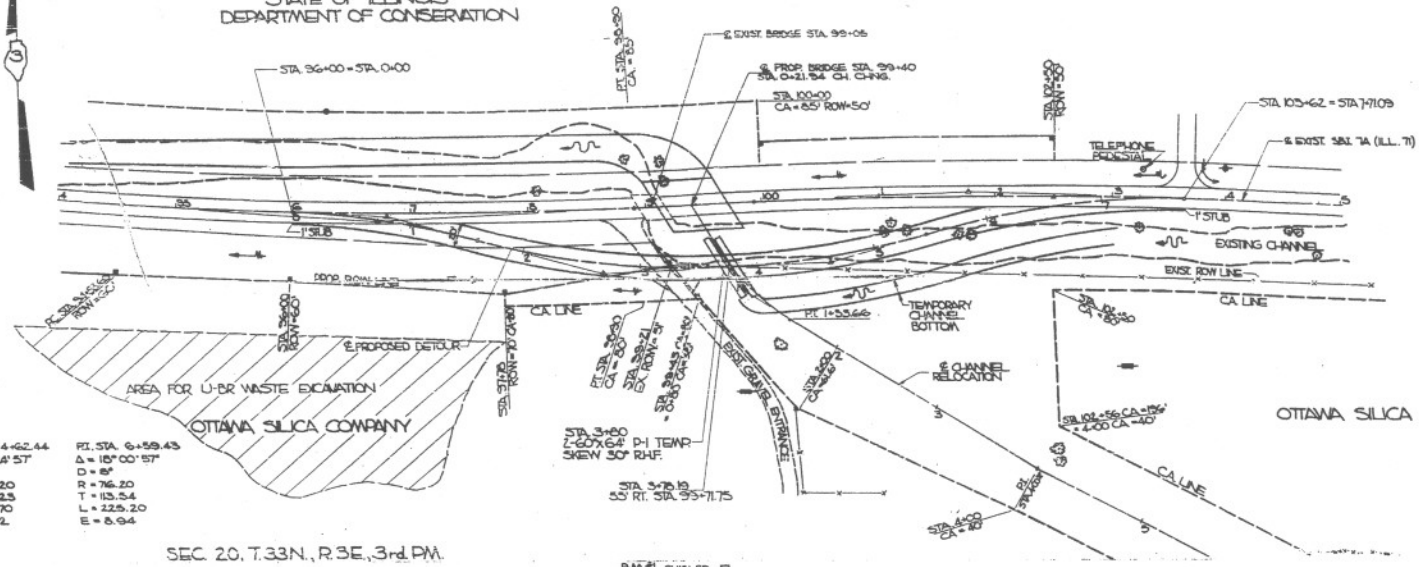
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
LA SALLE COUNTY
F.A. ROUTE 8 (SBI ROUTE 7A)
SECTION I-R, I-BR, & U-BR
C93-069-69
DATE: 11/15/69
BY: [Signature]
CHECKED: [Signature]
APPROVED: [Signature]

CONTRACT NO. 26693

LA SALLE COUNTY 1215RUM2 ROUTE 8



STATE OF ILLINOIS
DEPARTMENT OF CONSERVATION

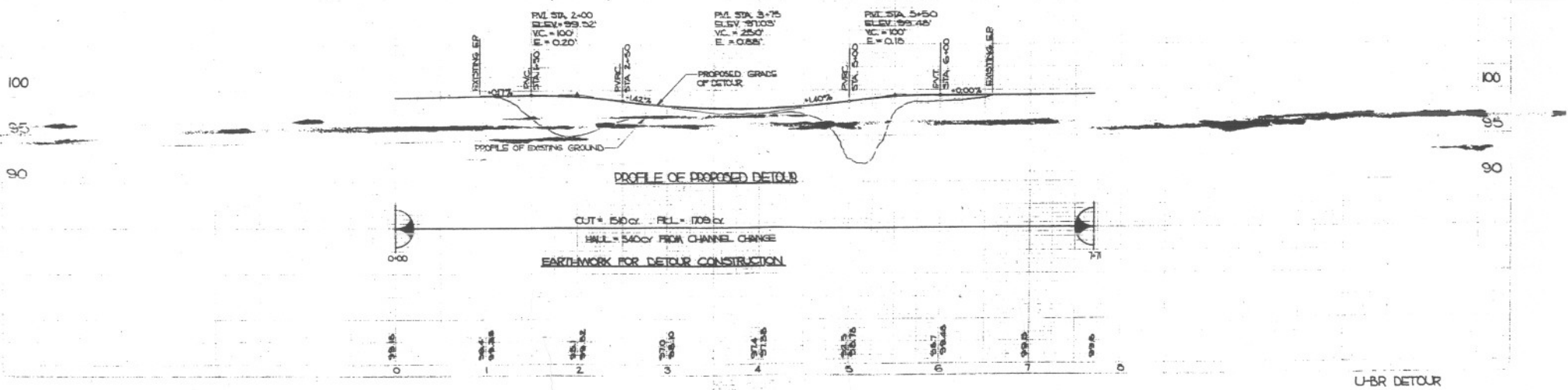


CURVE DATA

PL STA 0+80.14 Δ = 12° 46' 07" D = 87' R = 166.20' T = 60.14 L = 159.61 E = 4.46	PI STA 2+69.75 Δ = 17° 29' 12" D = 87' R = 76.20 T = 10.14 L = 218.56 E = 8.42	PI STA 4+62.44 Δ = 15° 24' 57" D = 87' R = 76.20 T = 84.23 L = 167.70 E = 8.42	PI STA 6+59.43 Δ = 15° 00' 57" D = 87' R = 76.20 T = 13.54 L = 225.20 E = 8.94
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SEC. 20, T.33N., R.3E., 3rd PM.

B.M. CHASED □
ON NW CORNER OF
HEADWALL 10' RT
STA 99+00 ELEV. 100.00



CUT = 150 ft. FILL = 108 ft.
HILL = 540 ft. FROM CHANNEL CHANGE
EARTHWORK FOR DETOUR CONSTRUCTION

U-PR DETOUR

B.M. #1 Chiselled in on N.W. of Headwall
 10' @ Sta. 99+00 E.L. 100.00
 Existing Structure: Rein. Conc. Slab, Rein. Conc. Abut.
 22' 0" O.A.M.T. R.C.C. & E.H. Wearing Surface.
 Built as S.B.I. 7A, Sec. 19, 1900.
 To be removed by Bridge Contractor before new
 bridge is built. No Damage.

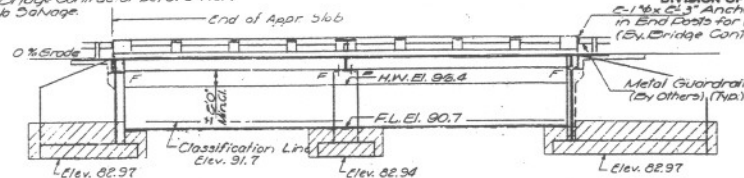
Detour Road: Provide 3-72" @
 Pipe Culverts
 (5.5' @ Flood (75' @))

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS

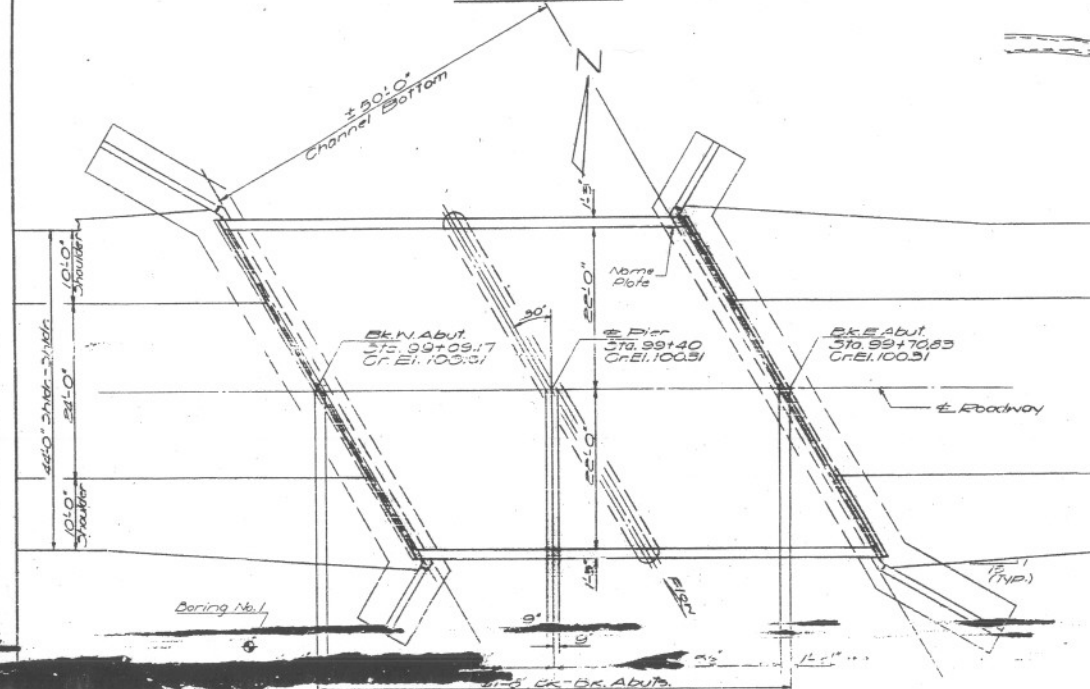
PROJECT NO.	SECTION	SHEET NO.	SHEETS
U-BR	LASALLE	44	20

SHEET NO. 1
 8 SHEETS

See Sheet #2 For General Notes.



ELEVATION



PLAN

BUILT 19 BY
 STATE OF ILLINOIS
 S.B.I. AT 7A SEC. U-BR

LOADING H3 E0

NAME PLATES

See Sta. 2113-1

DESIGNED: George H. H. H.

CHECKED: Sureth T. Desai

DRAWN: Jacobs

CHECKED: S.D.

EXAMINED: C. E. H.

PHASED: 1969

APPROVED: 1969

1969

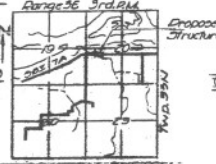
WATERWAY INFORMATION

Drainage Area — 4500 Acres
 Character — rolling, hilly, wooded, cultivated
 Required Opening (50 Year Flood) — 270 Sq. Ft.
 Present Opening — 102 Sq. Ft.
 Proposed Opening — 270 Sq. Ft.
 Q (50) 1770 cfs

DESIGN STRESSES

FIELD UNITS
 F_t = 1400 psi
 F_c = 50,000 psi — Reinf.
 1k = 75 psi — Flgs. n = 10
 F_c = 1000 psi — Abutts. & Wings
 PRECAST REINFORCED UNITS
 F_c = 4000 psi
 F_t = 4000 psi
 F_c = 4000 psi — 3 strands
 F_t = 175,000 psi — 3 strands

LOADING H3 E0 44



LOCATION SKETCH

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.	Total
Rock Excavation for Structures	Cu. Yds.			55
Channel Excavation	Cu. Yds.			1580
Class B Excavation for Structures	Cu. Yds.			750
Removal of Existing Structures	Cu. Yds.	2.3	208.8	211.1
Class A Concrete	Cu. Yds.		99.7	99.7
Class B Concrete	Cu. Yds.	3.6		3.6
Reinforcement Bars	Lbs.	4010	29440	33450
P.R.C. Deck Sma. (17')	Sq. Ft.	2709		2709
Name Plates	ea.	1		1
Protective Coat	Sq. Yds.	55		55
Coal Tar Interlayer	Sq. Yds.	257		257
Substructure	Sq. Yds.	1000		1000
Stone Riprap	Sq. Yds.			270
Class A Excavation for Structures	Cu. Yds.			

GENERAL PLAN & ELEVATION

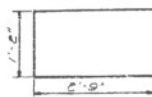
BROWN BROOK
 3.51 ROUTE 7A
 SECTION U-BR
 LASALLE COUNTY
 STATION 99+40

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

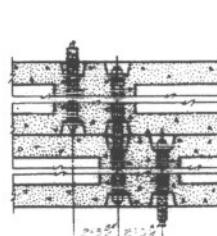
SHEET NO.	44	22	5 SHEETS
U-BR L/SALLE			



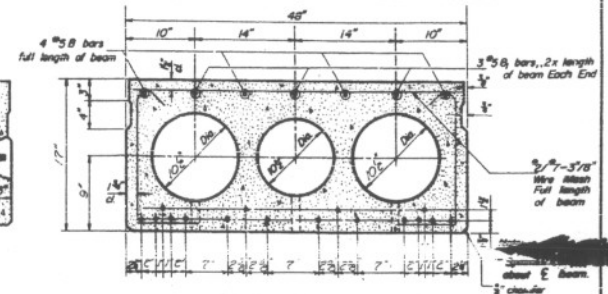
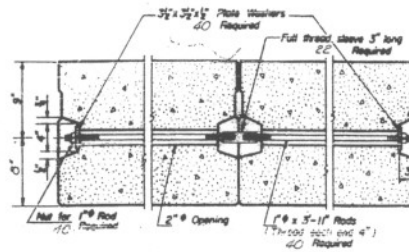
FABRIC BEARING PAD



U BAR

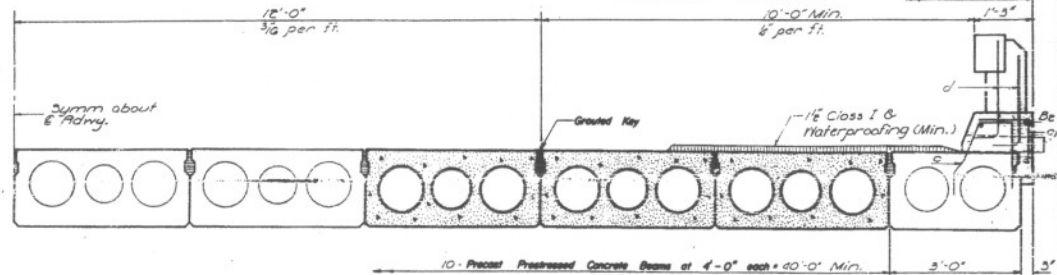


TYPICAL TRANSVERSE TIE ASSEMBLY

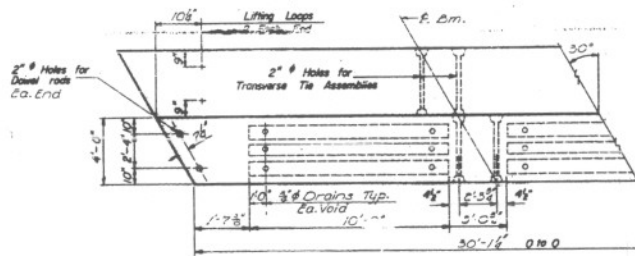


TYPICAL SECTION OF BEAM

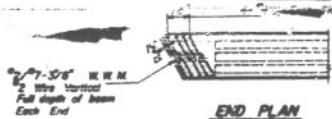
1/2" # Strands, Each Strand Stressed to 18,900 lbs.
12 Strands 18" up 4 Strands 34" up



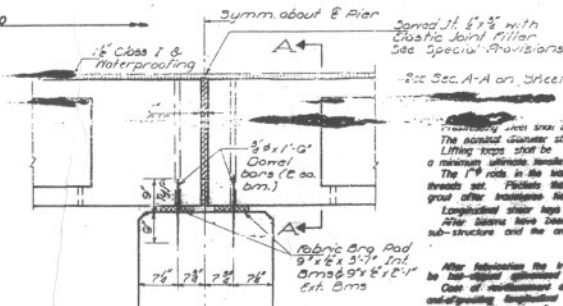
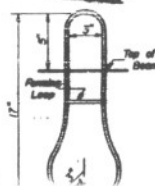
HALF CROSS SECTION



PLAN



END PLAN



GENERAL NOTES

1. The beams shall be furnished in accordance with A.S.T.M. Designation: A153.
2. The beams shall be furnished in accordance with A.S.T.M. Designation: A153.
3. The beams shall be furnished in accordance with A.S.T.M. Designation: A153.
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9. The beams shall be furnished in accordance with A.S.T.M. Designation: A153.
10. The beams shall be furnished in accordance with A.S.T.M. Designation: A153.

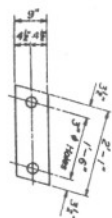
BILL OF MATERIAL

Item	No.	Size	Shape
1	50	25'-9"	
2	50	6'-0"	
3	50	6'-0"	
4	50	6'-0"	
5	50	6'-0"	
6	50	6'-0"	
7	50	6'-0"	
8	50	6'-0"	
9	50	6'-0"	
10	50	6'-0"	

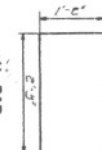
Substructure
501-71-7A SEC. 1-100
7-1-100-100-100

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

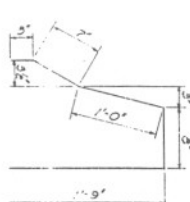
PROJECT NO. 4	44	23
SHEET NO. 4		
DATE		
BY		
CHECKED		



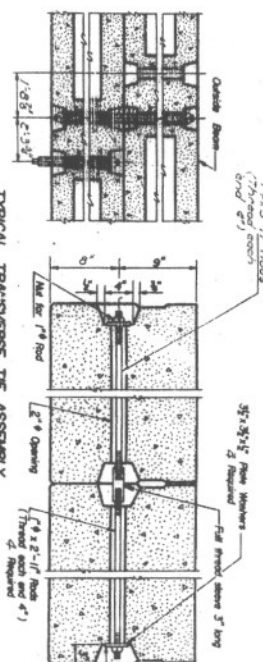
FABRIC BEARING PAD



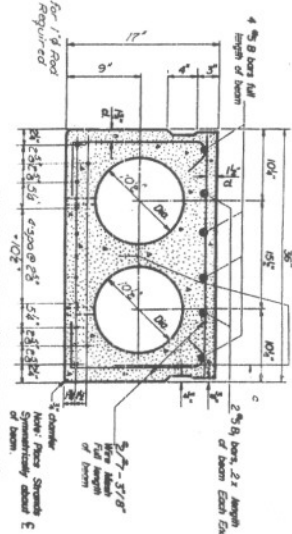
U BAR



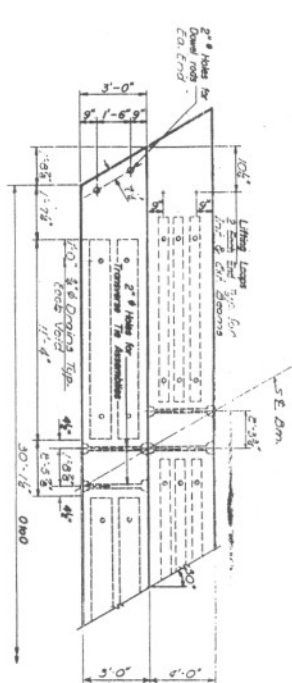
FABRIC



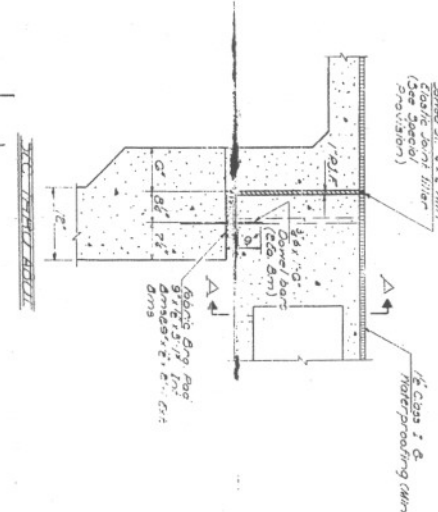
TYPICAL TRANSVERSE TE ASSEMBLY



TYPICAL SECTION



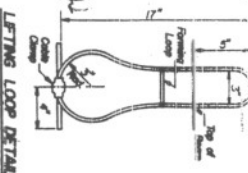
PLAN



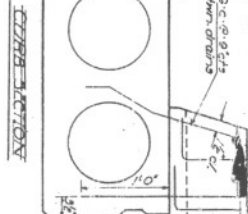
TYPICAL SECTION



END PLAN



LIFTING LOOP DETAIL



CROSS SECTION

GENERAL NOTES

1. The material specified shall be of the best quality and shall conform to the specifications of the Illinois Department of Public Works and Buildings. The material shall be of the best quality and shall conform to the specifications of the Illinois Department of Public Works and Buildings.

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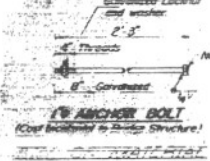
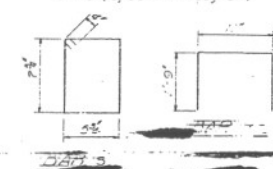
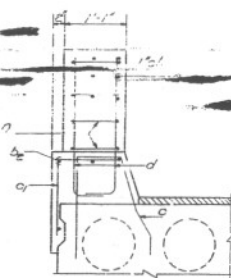
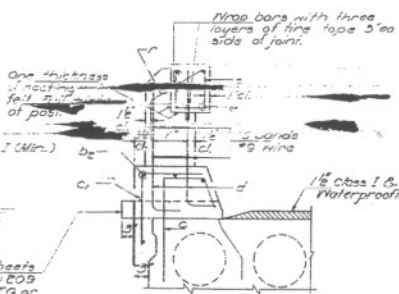
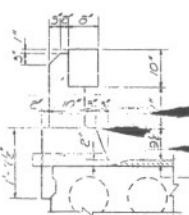
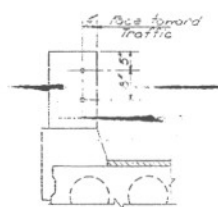
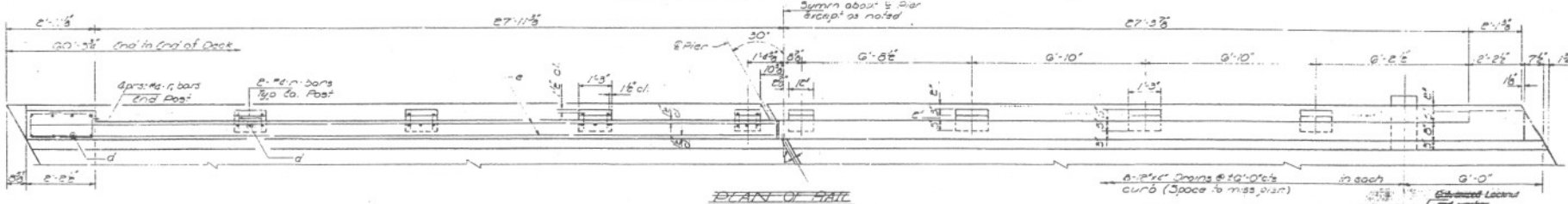
BILL OF MATERIAL

Item	Quantity	Unit	Price
1. Fabric Bearing Pad	100	Sq. Yd.	1.50
2. U Bar	100	Lb.	0.10
3. Fabric	100	Sq. Yd.	1.50
4. Lifting Loop Detail	100	Sq. Yd.	1.50
5. Cross Section	100	Sq. Yd.	1.50
6. Typical Transverse Te Assembly	100	Sq. Yd.	1.50
7. Typical Section	100	Sq. Yd.	1.50
8. End Plan	100	Sq. Yd.	1.50
9. Lifting Loop Detail	100	Sq. Yd.	1.50
10. Cross Section	100	Sq. Yd.	1.50

REPORT NO.	PROJECT	OFFICE	DATE	BY
8	U-BR LASALLE	44	24	

SHEET NO. 1

1 SHEETS



Son	115	#8	2'-0"	L
d	115	#8	2'-0"	L
f	32	#6	2'-0"	1
7	32	#6	2'-0"	1
5	240	#8	2'-11"	2

Handrail Concrete Cu Wdg 3.0
Reinforcement Bars lbs 3070

* Handrail Concrete	Cu Yds	3.6
Reinforcement Bars	Lbs	3070

* The cost of furnishing and placing in "9 gage wire, fine rope and roofing felt shall be included in unit or as bid per cubic yards for Handrail Concrete.

DESIGNED	<i>George Arnold</i>
CHECKED	<i>Suresh T. Desai</i>
DRAWN	<i>SCHNEIDER</i>
CHECKED	<i>SD.</i>

EXAMINED

PASSED

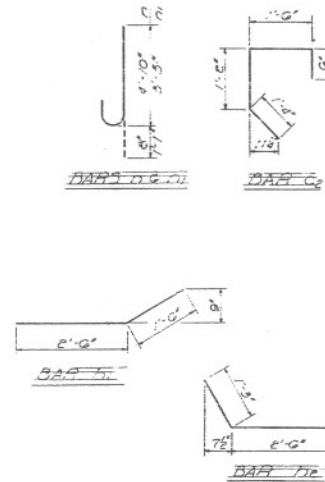
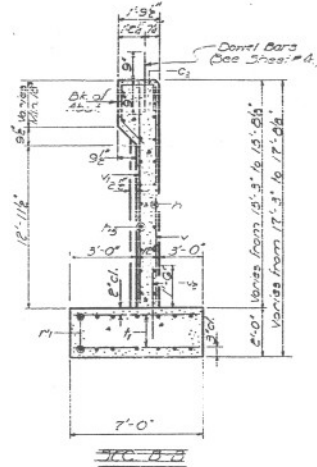
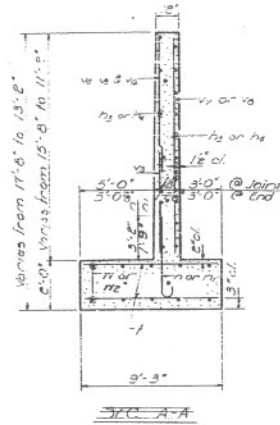
APPROVED

Aluminum sheets
welded ASTM: 209
alloy 6061-TG or
Aluminum Extrusions
ASTM: 6061 alloy
6061-TG. (Cost incidental
to Class X Concrete)

CONCRETE HANDRAIL
501 RT 7A - SEC U-35
LA SALLE COUNTY
STA 997+00

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

DATE	DESIGNED	CHECKED	DRAWN	BY	NO.	SHEETS
8-1-58	VERLASSALLE	44	26	6	7	



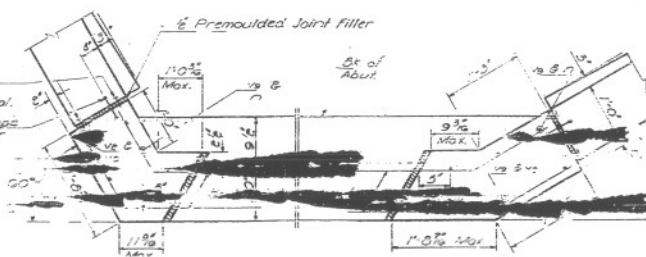
REINFORCEMENT
SCHEDULE

No.	Size	Length	Shape
h	#6	28'-0"	—
h1	#6	6'-0"	—
h2	#6	3'-9"	—
h3	#6	18'-3"	—
h4	#6	10'-0"	—
h5	#6	28'-0"	—
h6	#6	5'-0"	—
h7	#6	4'-6"	—
h8	#6	9'-0"	—
h9	#6	6'-9"	—
h10	#6	15'-0"	—
h11	#6	15'-0"	—
h12	#6	15'-0"	—
h13	#6	15'-0"	—
h14	#6	15'-0"	—
h15	#6	15'-0"	—
h16	#6	15'-0"	—
h17	#6	15'-0"	—
h18	#6	15'-0"	—
h19	#6	15'-0"	—
h20	#6	15'-0"	—
h21	#6	15'-0"	—
h22	#6	15'-0"	—
h23	#6	15'-0"	—
h24	#6	15'-0"	—
h25	#6	15'-0"	—
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h28	#6	15'-0"	—
h29	#6	15'-0"	—
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h31	#6	15'-0"	—
h32	#6	15'-0"	—
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h38	#6	15'-0"	—
h39	#6	15'-0"	—
h40	#6	15'-0"	—
h41	#6	15'-0"	—
h42	#6	15'-0"	—
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h45	#6	15'-0"	—
h46	#6	15'-0"	—
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h79	#6	15'-0"	—
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h81	#6	15'-0"	—
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h83	#6	15'-0"	—
h84	#6	15'-0"	—
h85	#6	15'-0"	—
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h88	#6	15'-0"	—
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h90	#6	15'-0"	—
h91	#6	15'-0"	—
h92	#6	15'-0"	—
h93	#6	15'-0"	—
h94	#6	15'-0"	—
h95	#6	15'-0"	—
h96	#6	15'-0"	—
h97	#6	15'-0"	—
h98	#6	15'-0"	—
h99	#6	15'-0"	—
h100	#6	15'-0"	—

Class X Concrete
Reinforcement Bars

CU-40's
20A
20B
20C
20D
20E
20F
20G
20H
20I
20J
20K
20L
20M
20N
20O
20P
20Q
20R
20S
20T
20U
20V
20W
20X
20Y
20Z

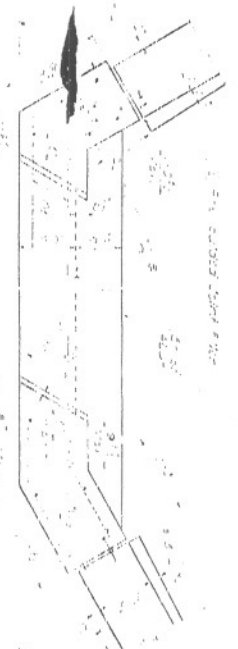
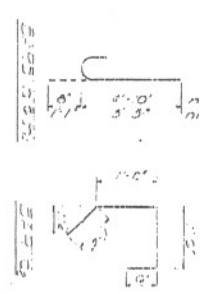
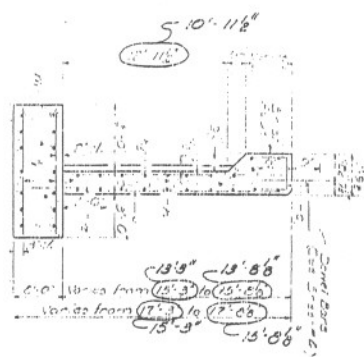
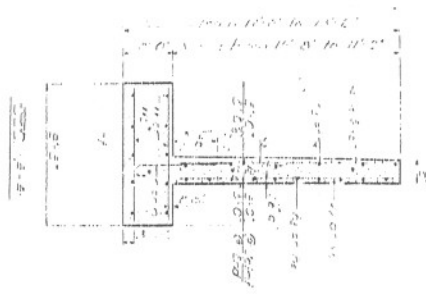
Max. Hg. Pressure Wt. 14 Tons/50 Ft.
Max. Hg. Pressure Abut. 1.5 Tons/50 Ft.



DESIGNED George A. Bove
CHECKED Survey T. Bove
DRAWN JOHNSON
CHECKED SD

EXAMINED James D. Bove
PASSED
APPROVED

ADDITIONAL DETAILS
30' AT 2A 50' AT 2B
7A WALL CORNER
57A 99' 10'



Station	Width	Offset	Notes
10+00	10.00	0.00	
10+10	10.00	0.00	
10+20	10.00	0.00	
10+30	10.00	0.00	
10+40	10.00	0.00	
10+50	10.00	0.00	
10+60	10.00	0.00	
10+70	10.00	0.00	
10+80	10.00	0.00	
10+90	10.00	0.00	
11+00	10.00	0.00	
11+10	10.00	0.00	
11+20	10.00	0.00	
11+30	10.00	0.00	
11+40	10.00	0.00	
11+50	10.00	0.00	
11+60	10.00	0.00	
11+70	10.00	0.00	
11+80	10.00	0.00	
11+90	10.00	0.00	
12+00	10.00	0.00	
12+10	10.00	0.00	
12+20	10.00	0.00	
12+30	10.00	0.00	
12+40	10.00	0.00	
12+50	10.00	0.00	
12+60	10.00	0.00	
12+70	10.00	0.00	
12+80	10.00	0.00	
12+90	10.00	0.00	
13+00	10.00	0.00	
13+10	10.00	0.00	
13+20	10.00	0.00	
13+30	10.00	0.00	
13+40	10.00	0.00	
13+50	10.00	0.00	
13+60	10.00	0.00	
13+70	10.00	0.00	
13+80	10.00	0.00	
13+90	10.00	0.00	
14+00	10.00	0.00	
14+10	10.00	0.00	
14+20	10.00	0.00	
14+30	10.00	0.00	
14+40	10.00	0.00	
14+50	10.00	0.00	
14+60	10.00	0.00	
14+70	10.00	0.00	
14+80	10.00	0.00	
14+90	10.00	0.00	
15+00	10.00	0.00	
15+10	10.00	0.00	
15+20	10.00	0.00	
15+30	10.00	0.00	
15+40	10.00	0.00	
15+50	10.00	0.00	
15+60	10.00	0.00	
15+70	10.00	0.00	
15+80	10.00	0.00	
15+90	10.00	0.00	
16+00	10.00	0.00	
16+10	10.00	0.00	
16+20	10.00	0.00	
16+30	10.00	0.00	
16+40	10.00	0.00	
16+50	10.00	0.00	
16+60	10.00	0.00	
16+70	10.00	0.00	
16+80	10.00	0.00	
16+90	10.00	0.00	
17+00	10.00	0.00	
17+10	10.00	0.00	
17+20	10.00	0.00	
17+30	10.00	0.00	
17+40	10.00	0.00	
17+50	10.00	0.00	
17+60	10.00	0.00	
17+70	10.00	0.00	
17+80	10.00	0.00	
17+90	10.00	0.00	
18+00	10.00	0.00	
18+10	10.00	0.00	
18+20	10.00	0.00	
18+30	10.00	0.00	
18+40	10.00	0.00	
18+50	10.00	0.00	
18+60	10.00	0.00	
18+70	10.00	0.00	
18+80	10.00	0.00	
18+90	10.00	0.00	
19+00	10.00	0.00	
19+10	10.00	0.00	
19+20	10.00	0.00	
19+30	10.00	0.00	
19+40	10.00	0.00	
19+50	10.00	0.00	
19+60	10.00	0.00	
19+70	10.00	0.00	
19+80	10.00	0.00	
19+90	10.00	0.00	
20+00	10.00	0.00	
20+10	10.00	0.00	
20+20	10.00	0.00	
20+30	10.00	0.00	
20+40	10.00	0.00	
20+50	10.00	0.00	
20+60	10.00	0.00	
20+70	10.00	0.00	
20+80	10.00	0.00	
20+90	10.00	0.00	
21+00	10.00	0.00	
21+10	10.00	0.00	
21+20	10.00	0.00	
21+30	10.00	0.00	
21+40	10.00	0.00	
21+50	10.00	0.00	
21+60	10.00	0.00	
21+70	10.00	0.00	
21+80	10.00	0.00	
21+90	10.00	0.00	
22+00	10.00	0.00	
22+10	10.00	0.00	
22+20	10.00	0.00	
22+30	10.00	0.00	
22+40	10.00	0.00	
22+50	10.00	0.00	
22+60	10.00	0.00	
22+70	10.00	0.00	
22+80	10.00	0.00	
22+90	10.00	0.00	
23+00	10.00	0.00	
23+10	10.00	0.00	
23+20	10.00	0.00	
23+30	10.00	0.00	
23+40	10.00	0.00	
23+50	10.00	0.00	
23+60	10.00	0.00	
23+70	10.00	0.00	
23+80	10.00	0.00	
23+90	10.00	0.00	
24+00	10.00	0.00	
24+10	10.00	0.00	
24+20	10.00	0.00	
24+30	10.00	0.00	
24+40	10.00	0.00	
24+50	10.00	0.00	
24+60	10.00	0.00	
24+70	10.00	0.00	
24+80	10.00	0.00	
24+90	10.00	0.00	
25+00	10.00	0.00	
25+10	10.00	0.00	
25+20	10.00	0.00	
25+30	10.00	0.00	
25+40	10.00	0.00	
25+50	10.00	0.00	
25+60	10.00	0.00	
25+70	10.00	0.00	
25+80	10.00	0.00	
25+90	10.00	0.00	
26+00	10.00	0.00	
26+10	10.00	0.00	
26+20	10.00	0.00	
26+30	10.00	0.00	
26+40	10.00	0.00	
26+50	10.00	0.00	
26+60	10.00	0.00	
26+70	10.00	0.00	
26+80	10.00	0.00	
26+90	10.00	0.00	
27+00	10.00	0.00	
27+10	10.00	0.00	
27+20	10.00	0.00	
27+30	10.00	0.00	
27+40	10.00	0.00	
27+50	10.00	0.00	
27+60	10.00	0.00	
27+70	10.00	0.00	
27+80	10.00	0.00	
27+90	10.00	0.00	
28+00	10.00	0.00	
28+10	10.00	0.00	
28+20	10.00	0.00	
28+30	10.00	0.00	
28+40	10.00	0.00	
28+50	10.00	0.00	
28+60	10.00	0.00	
28+70	10.00	0.00	
28+80	10.00	0.00	
28+90	10.00	0.00	
29+00	10.00	0.00	
29+10	10.00	0.00	
29+20	10.00	0.00	
29+30	10.00	0.00	
29+40	10.00	0.00	
29+50	10.00	0.00	
29+60	10.00	0.00	
29+70	10.00	0.00	
29+80	10.00	0.00	
29+90	10.00	0.00	
30+00	10.00	0.00	

AS BUILT

DATE: 10-1-1918
DRAWN BY: J. S. Smith
CHECKED BY: J. S. Smith
APPROVED BY: J. S. Smith

UNITED STATES	ADDRESS	PROPERTY	TOTAL	OTHER
N. B. S. P. A. 8	U-BR	LASALLE	44	27
UNITED STATES, INC. 2		U. S. GOVERNMENT	UNITED STATES, INC. 2	

Diagram of a cantilever beam fixed to a wall on the right. A horizontal force of 1.6 kN is applied to the free end on the left, acting at a vertical distance of 1.1 m from the bottom of the beam. The beam has a total length of 1.6 m. The diagram shows the beam's profile with a semi-circular end on the right.

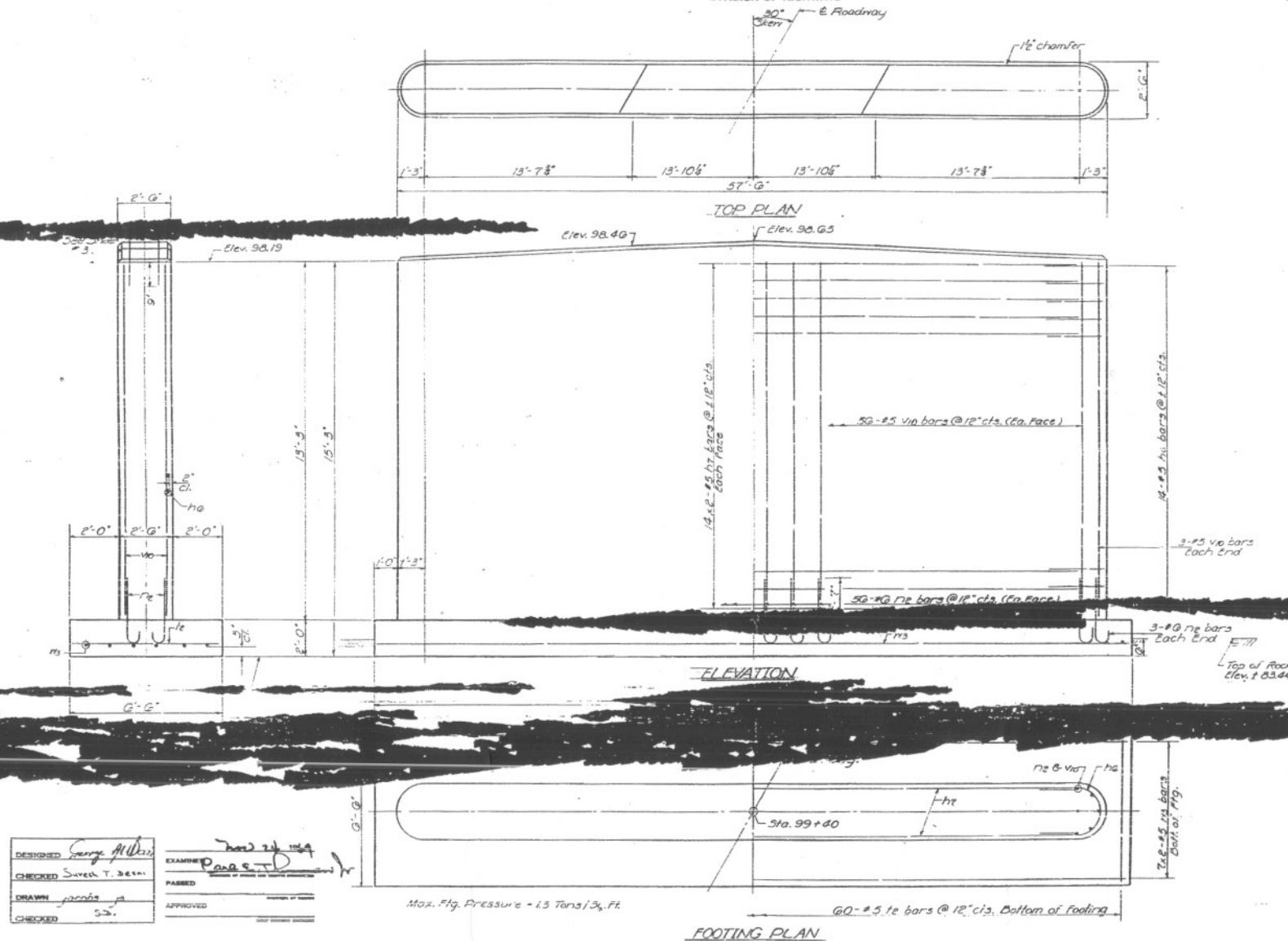


- CARD

BILL OF MATERIAL

[illegible]

PIER
S.D.I. RT. 7A SEC. 11-DR
LA SALLE COUNTY
97A 59+41



ILLINOIS DEPARTMENT OF TRANSPORTATION
ILLINOIS STRUCTURE INFORMATION SYSTEM
MASTER REPORT
INVENTORY DATA

DATE: 07/09/2001

PAGE: 1 OF 2

STRUCTURE NUMBER: 050 - 0030 DIST: 3

FACILITY CARRIED: ILL 71
FEATURE CROSSED: INTERM STREAM
BRIDGE REMARKS:BRIDGE STATUS: OPEN - NO RESTRICT
STATUS REMARKS:MAINT COUNTY: LASALLE MAINT TOWNSHIP: SOUTH OTTAWA
MAINT RESPONSIBILITY: I.D.O.T.
SERVICE ON/UNDER: HIGHWAY / WATERWAYBRIDGE NAME:
LOCATION: 5.90 MI E OF ILL 178

BRIDGE STATUS DATE: 04 / 1988

SUFFICIENCY RATING: 067.2
HBRRP ELIGIBLE: YES
REPLACED BY: 000 - 0000
REPLACES: 000 - 0000
LAST UPDATE DATE: 11/21/2000
PARALLEL STRUCTURE: NONE
MULTI-LEVEL STRUC NUMBER:
SKEW DIR: NONE
SKEW ANGLE: 00 00 00
STRUCTURE FLARED: NO
HISTORICAL SIGNIFICANCE: NO
BORDER BRIDGE STATE:
BDR STATE SN:
BDR STATE % RESPONSIBILITY: 00
STRUCTURAL STEEL WT: 000000000REPORTING AGENCY: I.D.O.T. - BUREAU OF MAINTENANCE
MAIN SPAN MAT"L/TYPE: PRESTRESS CONCRETE / BOX BEAM OR GIRDER-MULTIPLE
NUMBER OF SPANS: (MAIN SPANS) - 02 (APPROACH SPANS) - 00

*** APPROACHES ***

NEAR #1 MAT"L/TYPE: /

NEAR #2 MAT"L/TYPE: /

FAR #1 MAT"L/TYPE: /

FAR #2 MAT"L/TYPE: /

MEDIAN WIDTH/TYPE: 00 FT. NONE

RATED BY: IDOT

RATING METHOD: LOAD FACTOR

GUARDRAILS L/R: NONE NONE

INVENTORY RATING: HS 28.1 (251) RATING DATE: 03/28/2000

TOLL FACILITY: NO TOLL

OPERATING RATING: HS 45.2 (281)

LATITUDE: 41 D 19 M 00.84 S LONGITUDE: 88 D 54 M 33.85 S

DESIGN LOAD: HS20

STRUCTURE LENGTH: 62.0 SIDEWALKS UNDER STRUCTURE: NONE

AASHTO BRIDGE LENGTH: 58.0 SIDEWALK WIDTH RIGHT: 0.0 CULVERT FILL DEPTH: 0.0

LENGTH OF LONG SPAN: 30.0 SIDEWALK WIDTH LEFT: 0.0 CULVERT CELLS (COUNT): 0

BRIDGE ROADWAY WIDTH: 43.5 NAVIGATION CONTROL: NO CULVERT OPENING AREA: 0.0

APPR ROADWAY WIDTH: 32.0 NAVIGATION HORZ CLEAR: 0000 CULVERT CELL HEIGHT: 0.00

DECK WIDTH: 47.0 NAVIGATION VERT CLEAR: 000 CULVERT CELL WIDTH: 0.00

DECK STRUCTURE TYPE: PCAST PRES CN DK BM DECK STRUCTURE THICKNESS: 17.0

*** RAILROAD CROSSING INFO ***

CROSSING 1 NBR:

CROSSING 2 NBR:

RR LATERAL UNDERCLEAR: 0.0

RR VERT UNDERCLEAR: 00 FT 00 IN

*** KEY ROUTE ON DATA ***

KEY ROUTE NBR: FEDERAL-AID PRIMARY 0627 STATION: 9.54

APPURTENANCES: MAIN ROUTE 0.000 SEGMENT:

INVENTORY COUNTY: LASALLE LINKED: YES

TOWNSHIP/ROAD DIST: SOUTH OTTAWA

MUNICIPALITY:

URBAN AREA:

FUNCTIONAL CLASS: MINOR ARTERIAL (RURAL) NATIONAL HWY SYSTEM: NOT ON

** CLEARANCES ** SOUTH/EAST NORTH/WEST INVENTORY DIRECTION: EAST

MAX. RDWY WIDTH: 43.5 FT ADT YR/COUNT: 1999 / 001300

HORIZONTAL: 44.0 FT 0.0 FT TRUCK PERCENTAGE: 5

MIN VERTICAL: 99 FT 11 IN 00 FT 00 IN NUMBER OF LANES: 02

10 FT VERTICAL: 99 FT 11 IN 00 FT 00 IN ONE OR TWO WAY: TWO-WAY

LATERAL: BYPASS LENGTH: 05

FUTURE ADT YR/COUNT: 2021 / 2000

DESIGNATED TRUCK ROUTE: NO

SPECIAL SYSTEMS: NO

*** KEY ROUTE UNDER DATA ***

0000 STATION: 0.00

0.000 SEGMENT:

LINKED:

NATIONAL HWY SYSTEM:

SOUTH/EAST NORTH/WEST INVENTORY DIRECTION:

0.0 FT 0.0 FT ADT YR/COUNT: 0000 / 000000

0.0 FT 0.0 FT TRUCK PERCENTAGE: 0

00 FT 00 IN 00 FT 00 IN NUMBER OF LANES: 00

00 FT 00 IN 00 FT 00 IN ONE OR TWO WAY:

0.0 FT 0.0 FT BYPASS LENGTH: 00

FUTURE ADT YR/COUNT: 0000 / 000

DESIGNATED TRUCK ROUTE:

SPECIAL SYSTEMS: NO

*** MARKED ROUTE ON DATA ***

DESIGNATION KIND NUMBER

ROUTE #1 MAINLINE STATE HIGHWAY 0071

ROUTE #2

ROUTE #3

*** MARKED ROUTE UNDER DATA ***

DESIGNATION KIND NUMBER

ILLINOIS DEPARTMENT OF TRANSPORTATION
ILLINOIS STRUCTURE INFORMATION SYSTEM
MASTER REPORT

DATE: 07/09/2001
PAGE: 2 OF 2

STRUCTURE NUMBER: 050 - 0030 DIST: 3

INSPECTION/IMPROVEMENT DATA

*** DATA RELATED TO INSPECTION INFORMATION ***

*** INSPECTION INTERVALS ***

ROUTINE NBIS: 12 MOS UNDERWATER: 00 MOS
FRACTURE CRITICAL: 00 MOS SPECIAL: 00 MOS

*** MAXIMUM ALLOWABLE POSTING LIMITS ***

ONE TRUCK AT A TIME: COMBINATION TYPE 3S-1: TONS
SINGLE UNIT VEHICLES: TONS COMBINATION TYPE 3S-2: TONS
BRIDGE POSTING LEVEL: NO POSTING REQUIRED

*** INSPECTION / APPRAISAL INFORMATION ***

*** ACTUAL POSTED LIMITS ***

INSPECTION DATE: 05/30/2000 SPECIAL INSPECTION DATE: 00/00/0000
INSPECTION TEMPERATURE: +74 DEG. F.
DECK: 4 POOR CONDITION - ADVANCED DETERIORATION
BRIDGE RAILING APPRAISAL: 2 DOESN'T MEET STANDARDS
APPROACH GUARDRAIL: 3 3 2 ACCEPTABLE ACCEPTABLE NOT ACCEPTABLE
SUPERSTRUCTURE: 4 POOR CONDITION - ADVANCED DETERIORATION
SUBSTRUCTURE: 6 SATISFACTORY CONDITION - MINOR DETERIORATION
CHANNEL AND PROTECTION: 5 FAIR CONDITION - MINOR SECTION LOSS, CRACKS
CULVERT: N NOT APPLICABLE
STRUCTURAL EVALUATION: 4 MINIMUM ADEQUACY TO BE LEFT IN PLACE
DECK GEOMETRY: 7 BETTER THAN PRESENT MINIMUM CRITERIA
UNDERCLEARANCE-VERT, LAT: N NOT APPLICABLE
WATERWAY ADEQUACY: 5 BETTER THAN ADEQUATE TO BE LEFT IN PLACE
APPROACH RDWY ALIGN: 8 EQUAL TO PRESENT DESIRABLE CRITERIA
PIER NAVIG PROTECTION: N N/A
INSPECTED BY (NAME): Draper

SINGLE UNIT VEHICLES: TONS
COMBINATION TYPE 3S-1: TONS
COMBINATION TYPE 3S-2: TONS
POSTED ONE TRUCK AT A TIME:

UTILITIES ATTACHED:

DECK WEARING SURFACE: BITUMINOUS OVERLAY
DECK MEMBRANE: WATERPROOF MEM SYST
DECK PROTECTION: NONE
TOTAL DECK THICKNESS: 18.5 IN

LAST PAINT DATE: 00/0000
LAST PAINT TYPE:

INSPECTION REMARKS: 2000 DECK BEAMS HAVE SEVERAL SPALLS W/EXPOSED REBARS & RUST STAINING. ALSO SOME
EXPOSED STANDS. KEYWAYS LEAKING W/STALAGTITES. E BAY SILTED IN. SPALLS W/EXPOS
ED REBAR & LARGE DELAMINATED AREA IN PIER CAP. E SPAN SILTED IN. SUBMERGED.....

*** UNDERWATER INSPECTION / APPRAISAL INFORMATION ***

INSPECTION DATE: 00/00/0000 INSPECTION CATEGORY:
TEMPERATURE: +0 F. INSPECTION METHOD:
INSPECTED BY: APPRAISAL RATING:
INSPECTION REMARKS:

*** SCOUR CRITICAL INFORMATION ***

APPRAISAL RATING: 8 SCOUR ABOVE FNDN EVALUATION METHOD: RATIONAL ANALYSIS
ANALYSIS DATE: 11/23/1992 ANALYSIS BY (NAME): MCCARTER

***** MISCELLANEOUS *****

FRAC CRIT: NO INSP. DATE: / / APPR:
MICROFILM: YES

*** CONSTRUCTION INFORMATION ***

YEAR: 1970 ORIGINAL 0000 RECONSTRUCTED
ROUTE: FA-8 STA: 99+40 STA:
SECTION NBR: U-BR
CONTRACT NBR:
FED AID PR #: 00000000000000
BUILT BY: I.D.O.T.

*** WATERWAY INFORMATION ***

FLOOD DESIGN FREQUENCY: 000 YRS DRAINAGE AREA: 00000000.0 ACRE
FLOOD DESIGN Q (CFS): 0000000
FLOOD DESIGN NAT H W E: 0.00 FLOOD BASE Q (C F S): 0000000
FLOOD DES OPEN PROP: 0000000 SF FLOOD BASE NAT H W E: 0.00

*** PROPOSED IMPROVEMENTS ***

*** COSTS IN DOLLARS ***

COST ESTIMATE YEAR: 1999 LENGTH: 000062 BRIDGE IMPROVEMENT COST: \$ 210,000
TYPE OF WORK: REHABILITATION DUE TO GENERAL DETERIOR ROADWAY IMPROVEMENT COST: \$ 21,000
DONE BY: CONTRACT TOTAL PROJECT COST: \$ 315,000
REMARKS: DATA FROM OPP 10/01/99



Illinois Department of Transportation

SUFFICIENCY RATING

2000

67.2

Bridge Inspection Report

Sheet 1 of 4

Mo. Day Yr. Temp. Inspector

05	30	2000	74	DRAPER

050 - 0030

ILL 71 ; 5.90 MI E OF ILL 178
over INTERM STREAM

Spans = 2

Built 1970

Year

00				
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Remarks

Deck

Element Rating

108A Wearing Surface Type G

108B Type of Membrane A

17-C

108C Deck Protection J

108D Total Deck Thickness 18.5

1 1/2"

Wearing Surface
Deck Structural Condition
Curbs
Median
Sidewalks
Parapet WT
Railing
Drains
Light Standards
Expansion Joints

3				
2				
/				
/				
/				
3				
3				
3				
/				
/				

REFLECTIVE CRACKS, CRACKING @ ITS

DECK BEAMS SEVERAL EXPOSED STRANDS & EXP. REBAR

CRACK & DELAMINATIONS AT DRAINS

MEAS Opening COVERED

58 Condition Rating

4				
---	--	--	--	--

Bridge Railing Appraisal

36 Condition Rating

2000

2	3	3	2
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Superstructure

Bearing Devices
Stringers
Girders or Beams
Diaphragms or Braces
Crack Leaching
Joints (Leakage or Cond.)
59C Util.
Trusses
Portals and Bracing
Drainage System
Paint
Color: Facia _____ Inter _____ Rail _____
Rivets or Bolts
Weld Cracking
Rust
Timber (Decay, Damage)
Concrete Cracking
Collision Damage
LL Deflec & Vibration
Alignment of Members

/				
/				
2				
/				
2				
2				
/				
/				
/				
/				
/				
/				
/				
2				
/				
4				
4				

DECK BEAMS HAVE A LARGE AMOUNT OF EXP. REBAR & A FEW EXP. STRANDS

59A MO/YR: _____ 59B Code: 1 _____ 2 _____ 3 _____ H _____

Worst % Loss _____ %

DECK BEAMS HAVE CRACKS, DELAMS & SPALLS @ EDGES

59 Condition Rating

4				
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DELAMINATIONS, SPALLS, EXPOSED REBAR & PRESTRESSING STRANDS & RUST STAINING ON BOTTOM OF BEAMS

BM-BIR-1 (Rev. 1/90)

Sheet 2 of 4

00				
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Remarks

Abutments-Wing	4			
Backwall	1			
Bearing Seat	1			
Stem	1			
Slopes	3			
Erosion	3			
Settlement	4			
Piers or Bents	3			
Cap	2-3			
Column	3			
Crash Walls	1			
Scour	3			
Settlement	4			
Fender Systems	1			
Steel Corrosion	1			
Timber Decay, etc.	1			
Debris on Seat	1			
Paint	1			
Collision Damage	1			

SOME SPALLS W/ EXP. REBAR & SEVERAL DELAMINATED AREAS

6					
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SUBSTRUCTURE LOWERED DUE TO DEHAMINATIONS & SPALLS
W/EXPOSED REBAR IN PIER CAP.

Channel & Channel Protection

Scour of Channel	3			
Erosion of Banks	3			
Drift	2			
Vegetation	2			
Change in Channel	—			
Spur Dykes & Jetties	—			
Rip Rap or Slope Wall	—			

00 EAST SPAN SILTED IN - NO FLOW. LARGE LOG IN WEST SPAN.

5				
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Pier & Abutment Protection

/				
---	--	--	--	--

Culverts					
Wing Walls					
Head Walls					
Top Slab					
Walls					
Floor					
Siltation					
Settlement					
Scour					

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Sheet 3 of 4

Bridge No. 050 - 0030

71 Appraisal Rating

5				
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72 Appraisal Rating

8				
---	--	--	--	--

7				
4				
4				
4				
1				

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[illegible]

70D2 = One Truck at a Time

[illegible]

PRIORITY CODES:
1 - DO THIS YEAR
2 - SHOULD DO THIS YEAR
3 - WHEN CONVENIENT

Year

00				
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Bridge Inspection Report

Sheet 4 of 4

Bridge No. 050 - 0030

Additional Remarks

2000 DECK BEAMS HAVE SEVERAL SPALLS W/ EXPOSED REBAR & RUST STAINING. ALSO
SOME EXPOSED STRANDS. KEYWAYS LEAKING W/ STALAGMITES. EAST RAY SILTED
IN. SPALLS W/ EXPOSED REBAR & LARGE DELAMINATED AREA IN PIER CAP.
EAST SPAN SILTED IN. SUBMERGED LOG AT PIER MAY BE CAUSING SOME MINOR
SCOUR NEAR PIER @ UPSTREAM END. WEARING SURFACE MAP CRACKED.

Bridge Inspection Report

Sheet 2 of 4

Bridge No. 050 - 0030

Year

12 96 97 98 99

Substructure

Element Rating

Remarks

Abutments - Wing
Backwall
Bearing Seat
Stern
Slopes
Erosion
Settlement
Piers or Bents
Cap
Column
Crash Walls
Scour
Settlement
Fender Systems
Steel Corrosion
Timber Decay, etc.
Debris on Seat
Paint
Collision Damage

1	4	4	4	4
1	1	1	-	-
3	3	3	3	3
3	3	3	3	3
1	1	1	-	-
3	3	3	3	3
4	4	4	4	4
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
1	1	1	-	-
3	3	3	3	3
4	4	4	4	4
1	1	1	-	-
1	1	1	-	-
1	1	1	-	-
1	1	1	-	-
1	1	1	-	-

60 Condition Rating

7 7 7 7 7

Channel & Channel Protection

Scour of Channel
Erosion of Banks
Drift
Vegetation
Change in Channel
Spur Dykes & Jetties
Rip Rap or Slope Wall

4	3	3	3	3
3	3	3	3	3
3	2	2	2	2
3	2	2	2	2
1	1	1	-	-
1	1	1	-	-
1	1	1	-	-

61 Condition Rating

6 5 5 5 5

*West span filled in - no flow. 100% East Span in place
LARGE LOG IN EAST SPAN*

Pier & Abutment Protection

111 Condition Rating

1 1 1 1 1

Culverts

Wing Walls
Head Walls
Top Slab
Walls
Floor
Siltation
Settlement
Scour

62 Condition Rating

1 1 1 1 1

Sheet 3 of 4

94	96	97	98	99
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5	5	5	5	5
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2	7	7	7	8
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CURVE

				7
3	3	3	3	4
3	3	3	3	4
3	3	3	3	4
				-

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☐ ☐ ☐ ☐ ☐

70D2 = One Truck at a Time

[illegible]

1 - DO THIS YEAR
2 - SHOULD DO THIS YEAR
3 - WHEN CONVENIENT

Year

94 95 97 98 99

Bridge Inspection Report

Sheet 4 of 4

Bridge No. 050 - 0030

Additional Remarks

1994 West span silted in - no flow, Beams cracking & spalled w/ bars exposed along bottom keyway edges, keyways leaking - leaking & stalagmites, 11 reflective cracks

1996 SAME AS 94. VERTICAL CRACKS IN PIER, MINOR SPALLS IN PIER, DRIFT IN VEGETATION POOR CAUSING REDUCTION IN WATER WAY OPENING.

'97 SAME

198 East Span Silted In Flow To West Span; Delaminations @ Beam Ends Exposed Prestress Strand East Span @ 2; Abut & Pier Damp; same as 1996.

'99 SUPERSTRUCTURE LOWERED DUE TO EXPOSED STRANDS, SPALLS w/ EXPOSED REBAR & RUST STAINING ON BOTTOM OF BOX BEAMS, KEYWAYS LEAKING w/ STALAGMITES, EAST BAY SILTED IN, W.S. IN ROADWAY BEGINNING TO MAP-CRACK. MINOR CRACKS IN ABUTMENTS & PIER WALLS.

YEAR:

				94
--	--	--	--	----

ADDITIONAL REMARKS

KEYWAY FAILURES OF BOX BEAMS HAVE BEEN TO SPALL &
EXPOSE REBAR @ VARIOUS LOCATIONS.

Bridge Inspection Form

Pontis Format

S.N. 000 050-0030 11349

Inspection Date: 5-30-2000

Inspected By: DRAPER

Calculations By: C.G. & P.M.

A Deck Survey is Required

Traffic Over
ADT: 1,300

ADTT 104

Traffic Under
ADT: N / A

ADTT N/A

Facility Carried: IL 71

Feature Crossed: Stream

Location: 5.90 Miles East of IL 178

Main Spans: 2

Approach Spans:

Quantity of Deteriorated Bridge Deck:

[illegible]



IDOT-OTTAWA

Illinois Department of Transportation

DISTRICT 3
BUREAU OF OPERATIONS

MAR 27 '00

Memorandum

MAR 27 '00

To: James J. Jereb
 From: Ralph E. Anderson
 Subject: Load Rating of Deteriorated Structures
 Date: March 22, 2000

Attn: Bruce A. Hucker
 By: John A. Morris

Dist. Engr.	<input checked="" type="checkbox"/>	
Prog. Dev.	<input checked="" type="checkbox"/>	C
Studies/Plans	<input type="checkbox"/>	
Land Acq.	<input type="checkbox"/>	
Proj. Impl.	<input type="checkbox"/>	
Construction	<input type="checkbox"/>	
Materials	<input type="checkbox"/>	
Operations	<input checked="" type="checkbox"/>	
Local Roads	<input type="checkbox"/>	
Admin. Serv.	<input type="checkbox"/>	

	INIT	ACT
OPERATIONS ENGR	<input checked="" type="checkbox"/>	
STRUCTURAL ENGR		
FIELD ENGRS		
DESIGN & PLAN ENGR	<input checked="" type="checkbox"/>	X
TRAC ENGINEER		
DESIGN & PLAN ENGR		
PERMITS		
SECT. MGMT		
CIRCULAR		

In accordance with our bridge rerating initiative, we have re-evaluated the load-carrying capacity of the following structures. The new calculated capacities are based on the field condition of the load-carrying members of the bridges.

The inspections were performed on August 24 and September 7 & 8, 1999 by Steve Negangard, Kent Pollock and Chad Fuesting from the Bureau of Bridges and Structures along with Chris McCarter from the Bridge Maintenance group of your office.

The following tabulation provides the old and new ratings:

STRUCTURE NUMBER	LOCATION	INVENTORY RATING (OLD/NEW)		OPERATING RATING (OLD/NEW)	
027-0033	IL 15 over a Drain Ditch	HS 14.4	HS 14.9	HS 26.1	HS 24.6
038-0041	US 45 over a Drainage Ditch	HS 27.8	HS 24.7	HS 46.1	HS 40.5
046-0044	IL 50 over Soldier Creek	HS 20.6	HS 19.1	HS 35.6	HS 32.7
046-0055	IL 17 over Pike Creek	HS 25.0	HS 27.1	HS 39.4	HS 43.4
050-0017	IL 351 over I & M Canal & CSX RR	HS 25.6	HS 25.1	HS 37.8	HS 37.5
050-0030	IL 71 over Interm Stream	HS 28.9	HS 28.1	HS 46.7	HS 45.2

We have entered the new Inventory and Operating Ratings in the Illinois Structure Information System (ISIS).

We will be sending the field notes and photographs for your files under separate cover. If you have any questions, please contact Yavuz Gonulsen at 217/782-6266 or Steve Negangard at 217/524-3325.

John A. Morris

MKT/bb18443



Illinois Department of Transportation

Memorandum

To: James J. Jereb Attn: Bruce A. Hucker
From: Ralph E. Anderson By: John A. Morris
Subject: Load Rating of Deteriorated Structures
Date: May 5, 2000

SN: 027-0013 SN: 046-0044
SN: 027-0033 SN: 046-0047
SN: 038-0041 SN: 046-0055
SN: 038-0047 SN: 050-0017
SN: 038-0098 SN: 050-0030

Attached for your files are the field notes and photographs that pertain to our bridge re-rating initiative for the above captioned structures.

MKT/bb18792

John A. Morris

DATE: MAY 9 2000

OPERATIONS ENGR	
SERV & DEVEL ENGR	
FIELD ENGRS	
BRIDGE MAINT ENGR	<input checked="" type="checkbox"/>
TRAF OPER ENGR	
DESIGN & PLAN ENGR	
PERMITS	

Damage Inspection Information / Action Transmittal Form

STRUCTURE NUMBER:	050-0030	District	3
-------------------	----------	----------	---

\$ PROGRAMMING DATA \$:

Proposed Year of Improvement	PGM FY =	DIST FY =
------------------------------	----------	-----------

Type of Improvement:

MAINTENANCE UNIT Reviewed by: *SKP* Date: *10-27-99*

Inspection Date: 9-8-99	Inspector(s): SKP
-------------------------	-------------------

Initial NBIS Ratings

Recommended NBIS Ratings

58	59	60	62	58	59	60	62
----	----	----	----	----	----	----	----

6	4	7	N	6	4	7	N
---	---	---	---	---	---	---	---

Special Feature Inspection Required: _____ Member: _____

Memorandum to District dated: _____ : Copy attached: _____

REMARKS: Deck beams spalled with exposed strands.
Deck wearing surface has 1 1/2" asphalt overlay.

Forwarded to: YIG Date: 11-1-99

RATING UNIT	Reviewed by: <i>MKT</i>	Date: <i>1-19-00</i>
-------------	-------------------------	----------------------

Inventory Rating	HS 28.1	Operating Rating	HS 45.2
------------------	---------	------------------	---------

✓	Structure Rerated? (yes or no)	Rating Date: 1-19-00
---	--------------------------------	----------------------

✓ Structure does not warrant posting

No	Structure reduced to Legal Loads Only
----	---------------------------------------

Structure Posted	70	70A2	70B2	70C2	70D2
------------------	----	------	------	------	------

Posting Memorandum dated: _____ Copy attached: _____

REMARKS:

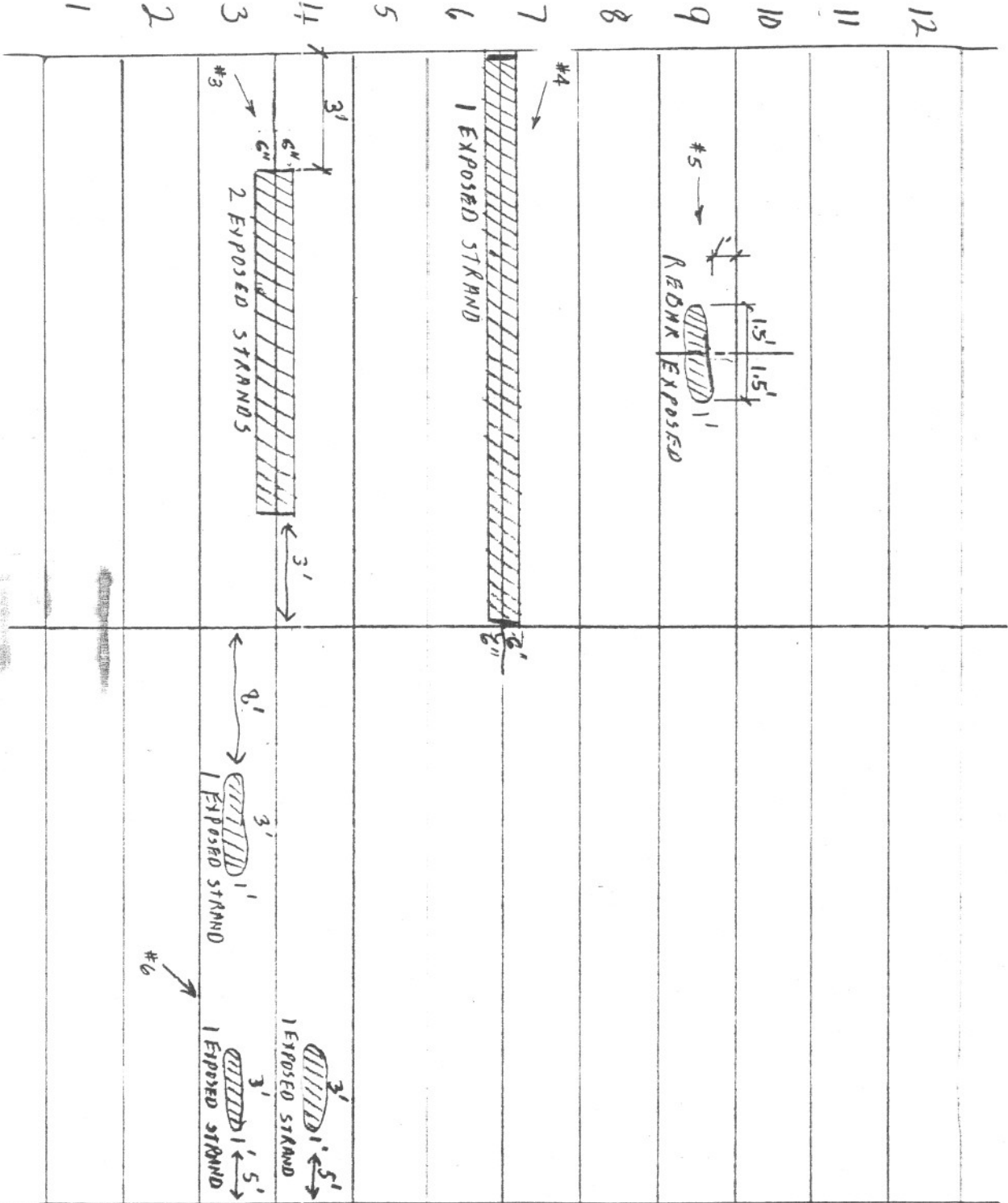
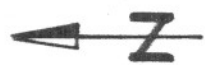
Forwarded / Returned to: _____ Date: _____

ADDITIONAL COMMENTS:

RETURN TO BRIDGE MAINTENANCE UNIT

Deck wearing surface is 1 1/2" asphalt overlay.

 Spalled Area



E. Abut.

Per. 1

W. Abut.

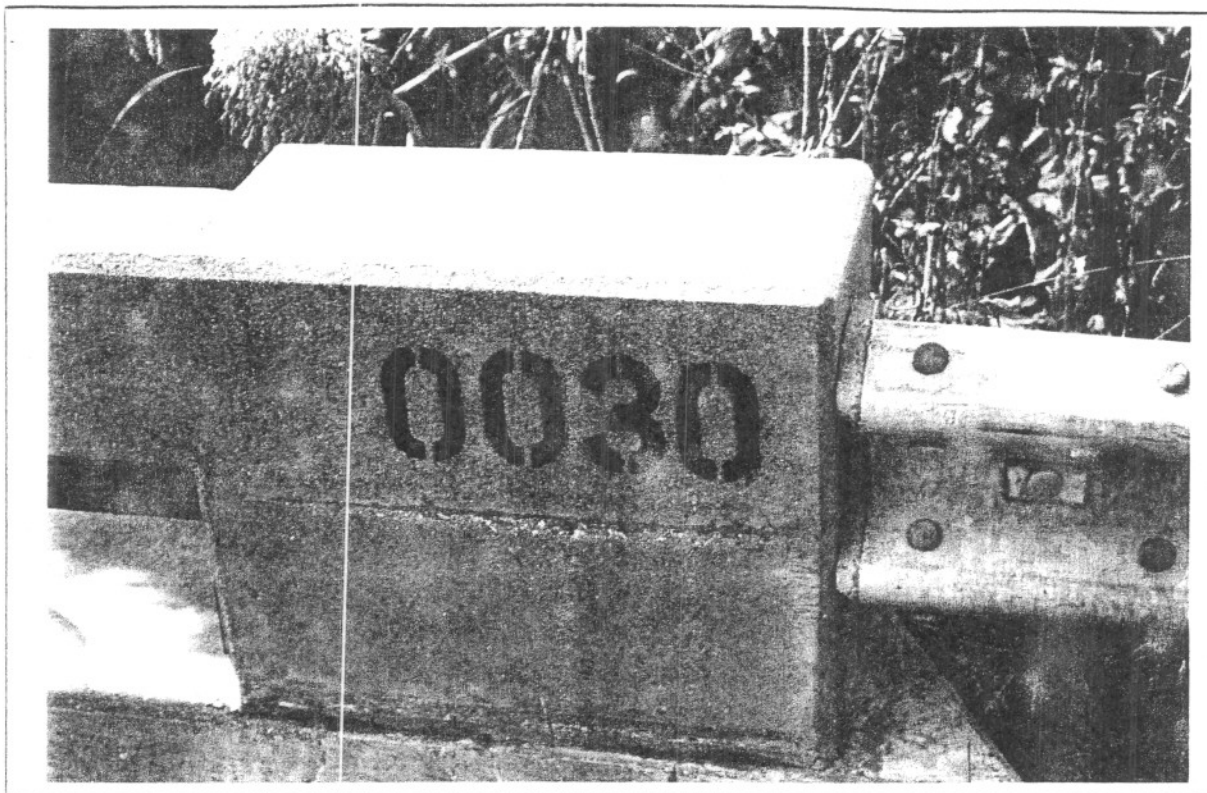


Photo # 1

Structure Number

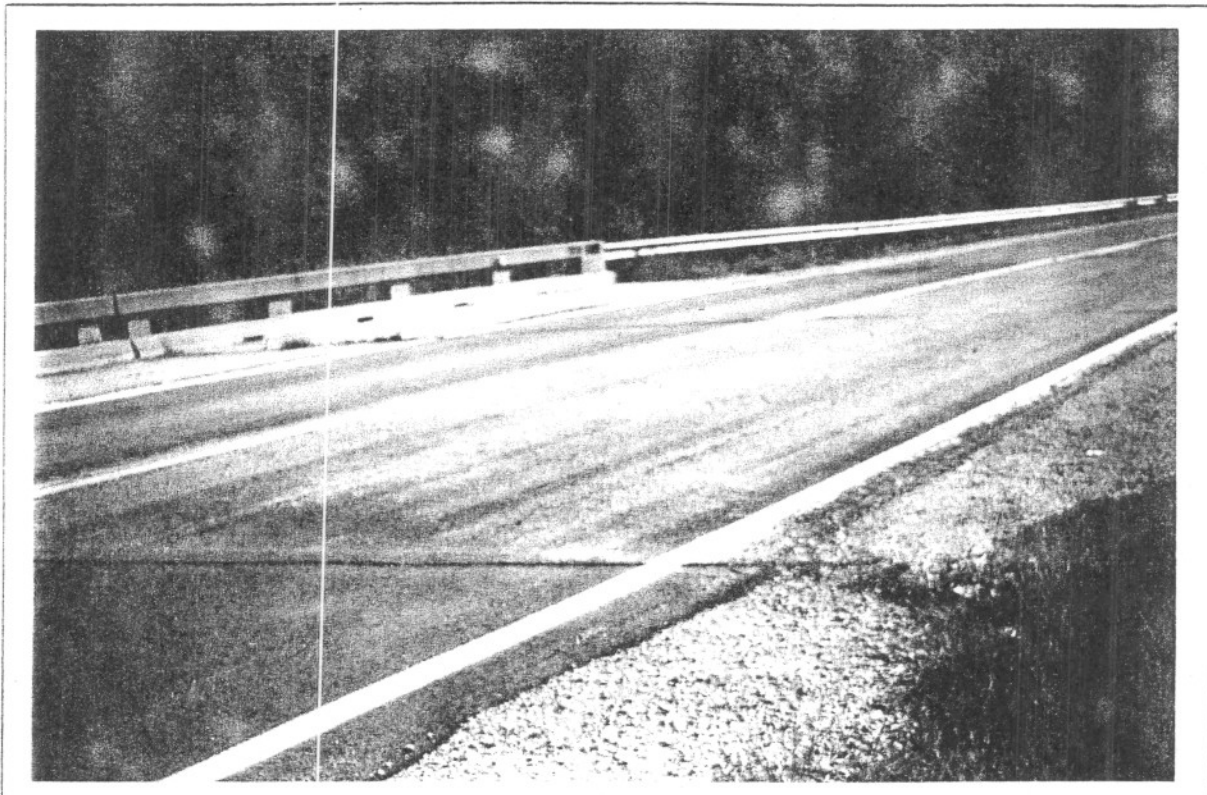


Photo # 2

Deck Surface Looking East

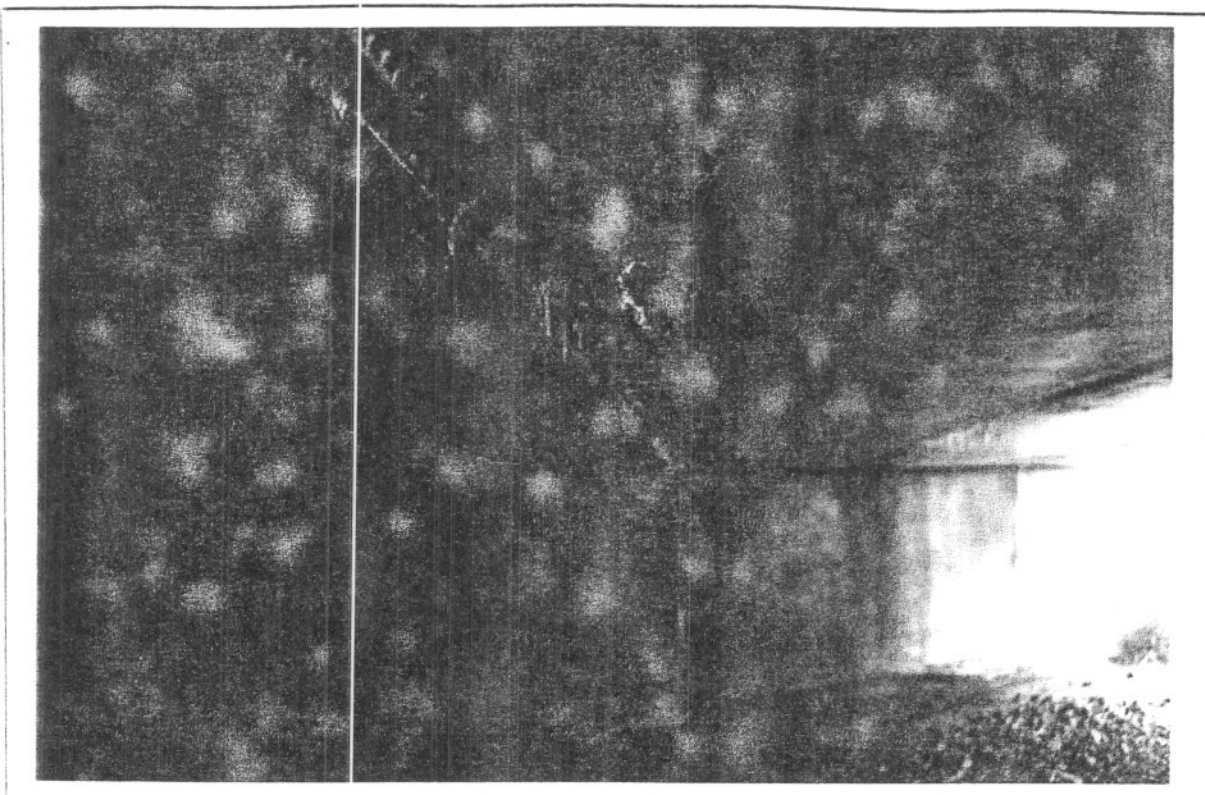


Photo # 3

Spalled Area in East Span Between Beams 3 & 4

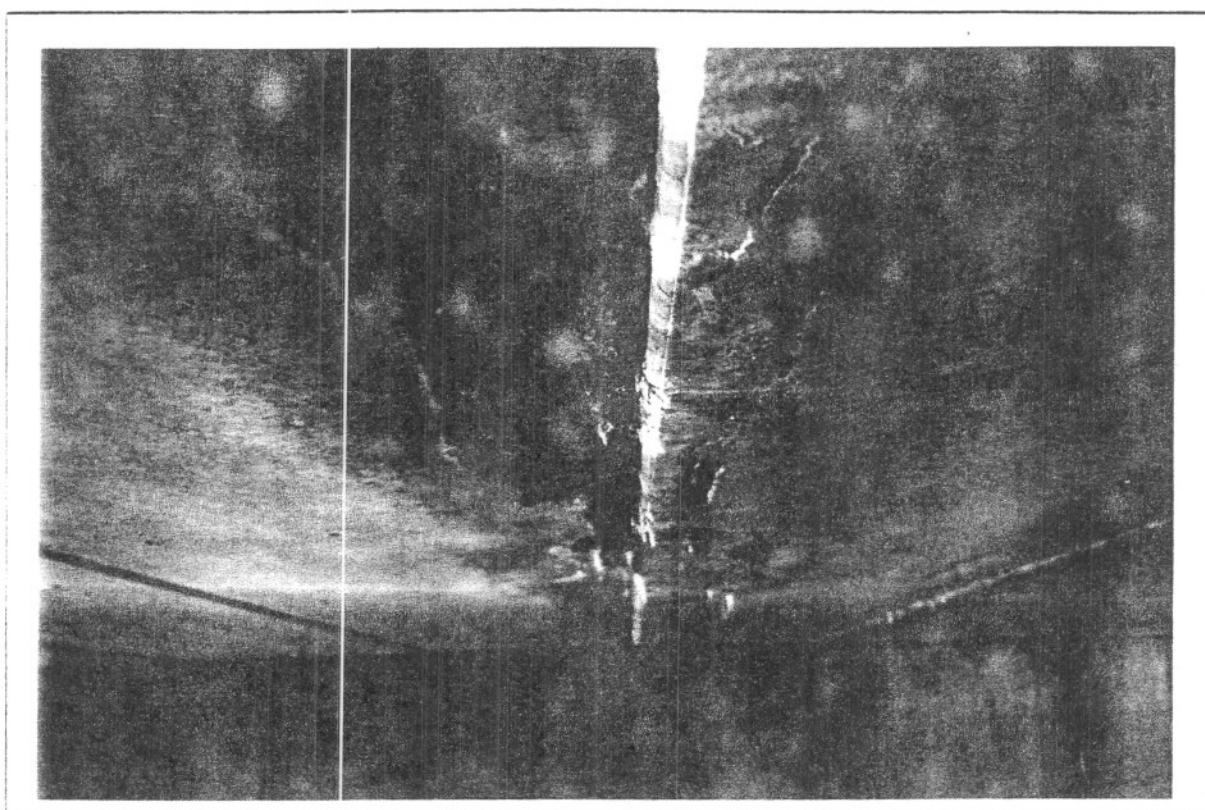
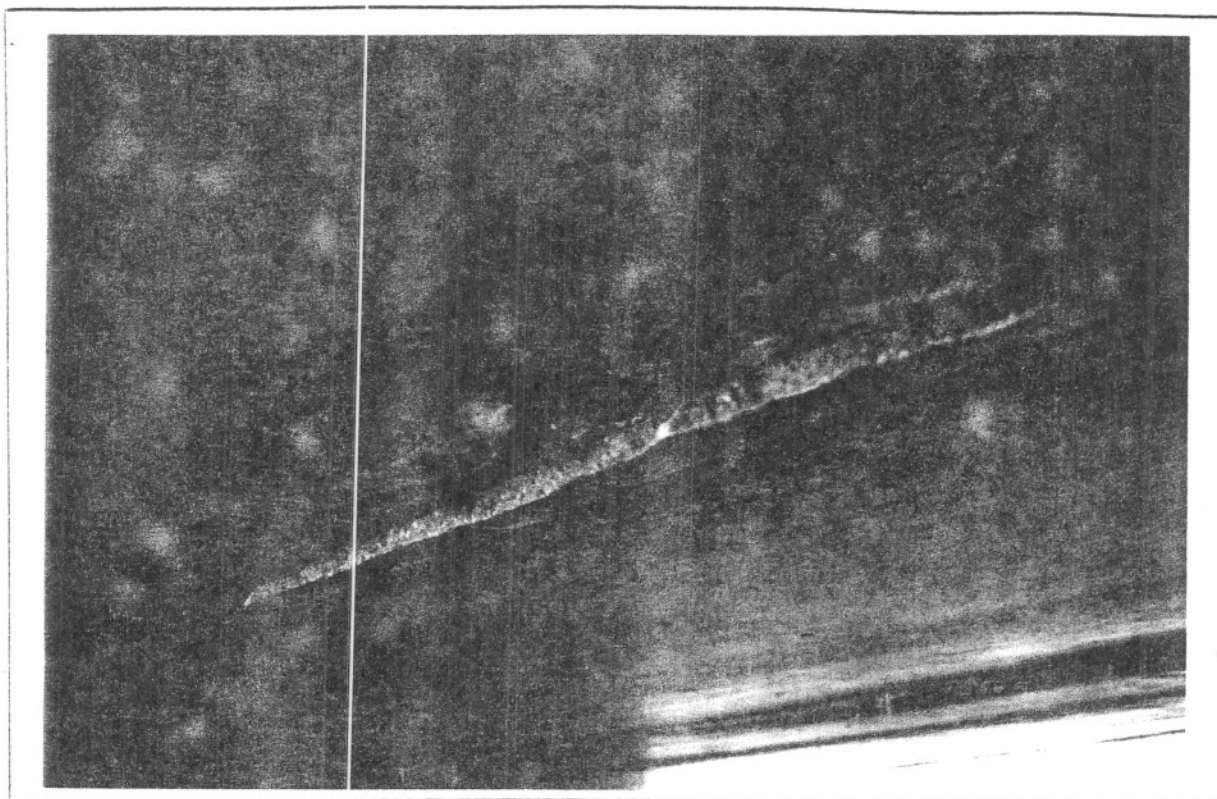
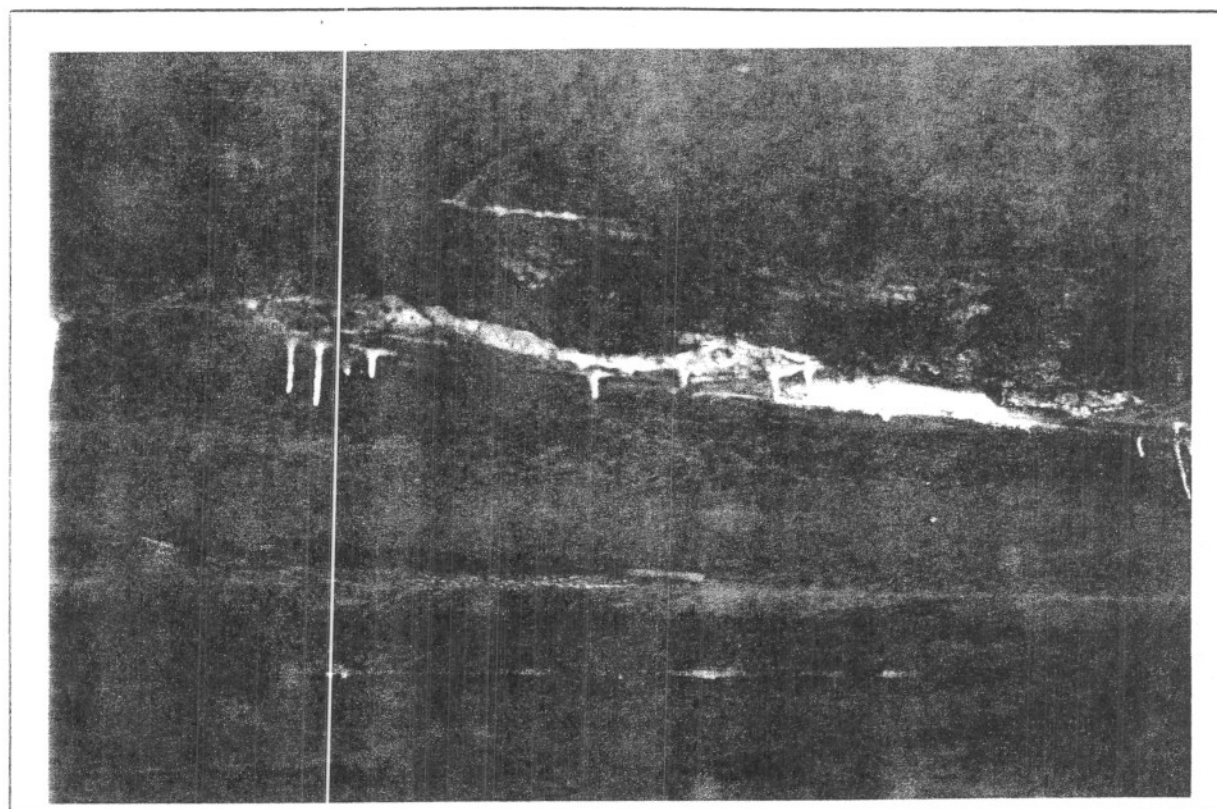


Photo # 4

Spalled Area in East Span Between Beams 6 & 7

Photo # 5*Spalled Area in East Span on Beam 4*Photo # 6*Spalled Area in West Span on Beam 3*



Structure Identification

Structure Number(s) (000-0000):
SN 050-0030

Asbestos Determination

- ☐ 1. The identified structures are included in the list that the USEPA exempted from the asbestos notification requirements in its letter of October 19, 2001.
- ☐ 2. The identified structures were unconfirmed for asbestos involvement as of October 19, 2001 but have subsequently been determined, on the basis of information available in the District office, not to involve asbestos in a bituminous bridge deck wearing surface or waterproofing membrane.
- ☒ 3. The identified structures were unconfirmed for asbestos involvement as of October 19, 2002 but have subsequently been determined, through testing, not to involve asbestos in a bituminous bridge deck wearing surface or waterproofing membrane. The test results were obtained in conformance with the approved "Sampling and Testing Procedures for Asbestos in Bituminous Bridge Deck Wearing Surface or Waterproofing Membrane" (Attachment 2 to BDE Procedure Memorandum 26-02).
- ☐ 4. The identified structures have been determined to involve asbestos in a bituminous bridge deck wearing surface and/or waterproofing membrane. The District will ensure compliance with the asbestos notification requirements for work on these structures that could disturb the asbestos-containing materials. The District also will ensure that the special provision for "Asbestos Waterproofing Membrane and Asbestos Bituminous Concrete Surface Removal (BDE)" is included in any contract for demolition of these structures or for other work involving removal of the existing bituminous bridge deck wearing surface and/or waterproofing membrane.
- ☐ 5. The identified structures had been determined to involve asbestos in a bituminous bridge deck wearing surface and/or waterproofing membrane. Removal operations have been completed for all asbestos bituminous concrete surface and asbestos waterproofing membrane on the identified structures.

Certification

Name: Mr. Steve Ferguson Position Title: Bridge & Hydraulics Engineer

Office Address: 700 E. Norris Drive

Ottawa, IL 61350 Phone Number: (815) 434-8964

Steve Ferguson
Signature *He*

Jan. 16 '03
Date

EMSL Analytical, Inc.

2444 West George Street

Chicago, IL 60618

Phone: (773) 313-0099 Fax: (773) 313-0139



Attn.: Linn Fahrenkrug

Raymond Professional Group, Inc

2010 52nd Avenue

Moline, IL 61265

Wednesday, November 20, 2002

Ref Number: CG023277

POLARIZED LIGHT MICROSCOPY (PLM)

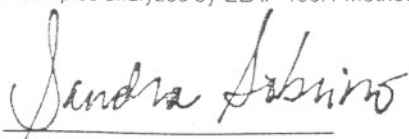
Performed by EPA 600/R-93/116 Method*

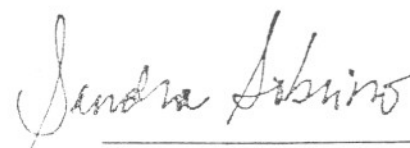
Project: IDOT District #3

Sample	Location	Appearance	Sample Treatment	ASBESTOS		NON-ASBESTOS	
				%	Type	% Fibrous	% Non-Fibrous
SN038-0175	US 45 2.3 MI. E OF ASHKUM	Grey/Black Non-Fibrous Heterogeneous	Dissolved	None Detected		3% Glass	40% Matrix 57% Other
SN038-0176	OR 363 2.59 MI. E OF IL 49	Grey/Black Non-Fibrous Heterogeneous	Dissolved	None Detected		5% Glass	60% Matrix 35% Other
SN038-0177	OR 50 2.3 MI. N OF CH 10	Grey/Black Non-Fibrous Heterogeneous	Dissolved	None Detected			50% Matrix 50% Other
SN050-0030	IL 71 5.9 MI. E OF IL 178	Grey/Black Non-Fibrous Heterogeneous	Dissolved	None Detected			40% Matrix 60% Other
SN050-0033	US 6 0.68 MI. E OF IL 23	Grey/Black Non-Fibrous Heterogeneous	Dissolved	None Detected			50% Matrix 50% Other
SN050-0037	IL 17 0.80 MI. E OF IL 179	Grey/Black Non-Fibrous Heterogeneous	Dissolved	None Detected			35% Matrix 65% Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.


Sandra Sobrino
Analyst

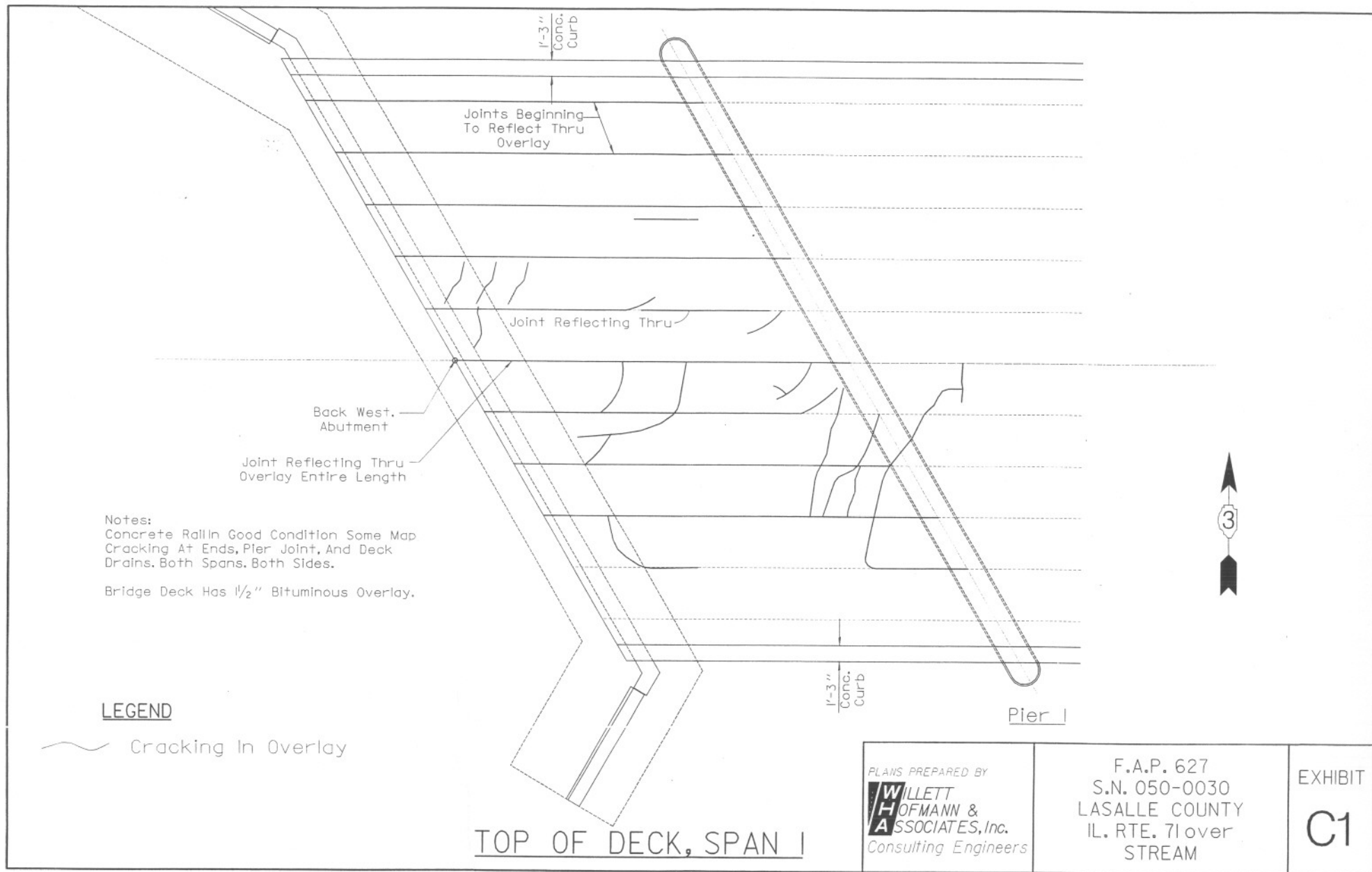

Approved
Signatory

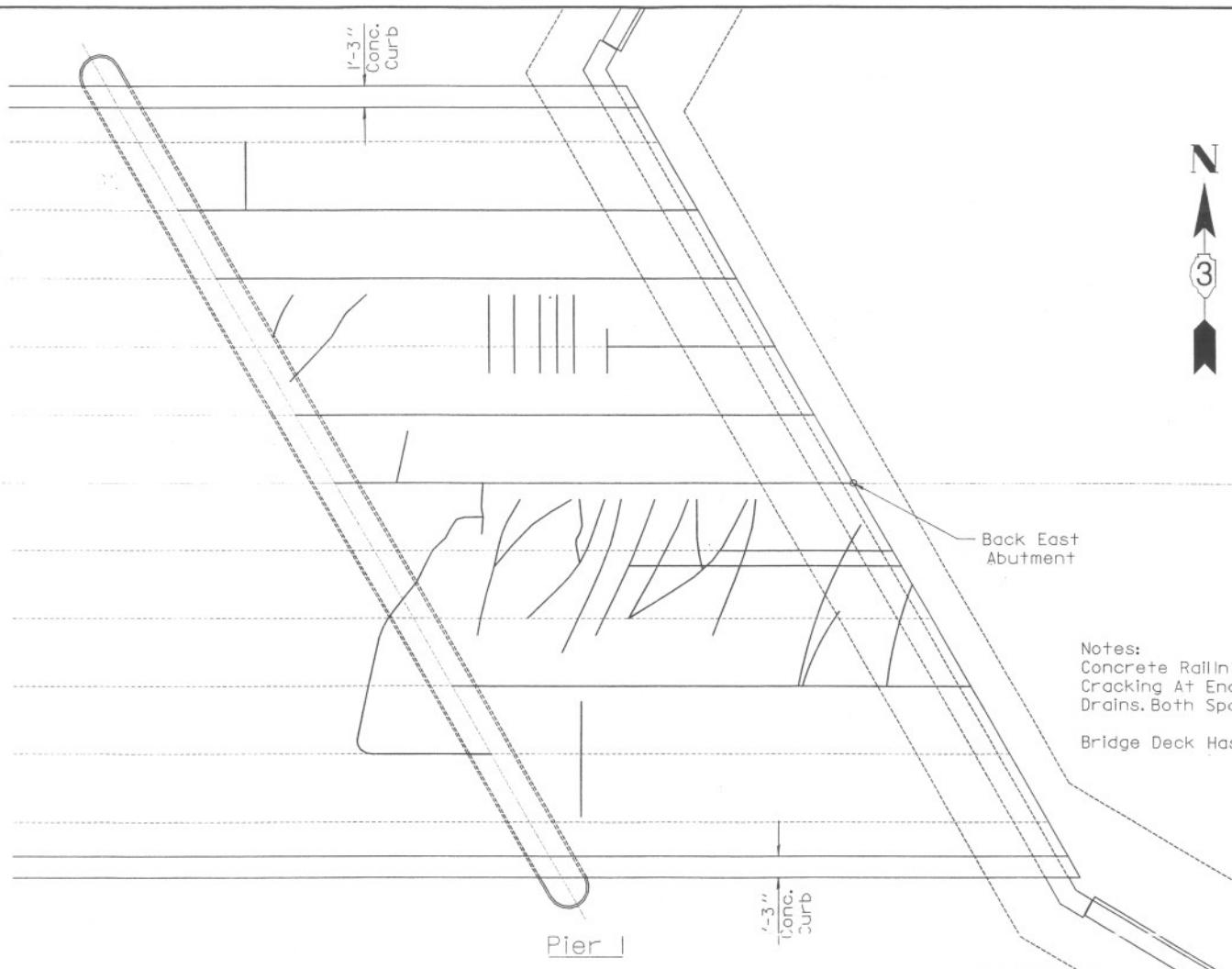
Disclaimer: PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. EMSL suggests that samples reported as <1% or none detected be tested with either SEM or TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. Laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

Analysis performed by EMSL Analytical (NVLAP Air and Bulk #200399-0, ID# 64761)

APPENDIX C

Field Inspection Sketches





Notes:
 Concrete Rallin Good Condition Some Map
 Cracking At Ends, Pier Joint, And Deck
 Drains, Both Spans, Both Sides.
 Bridge Deck Has 1 1/2" Bituminous Overlay.

LEGEND

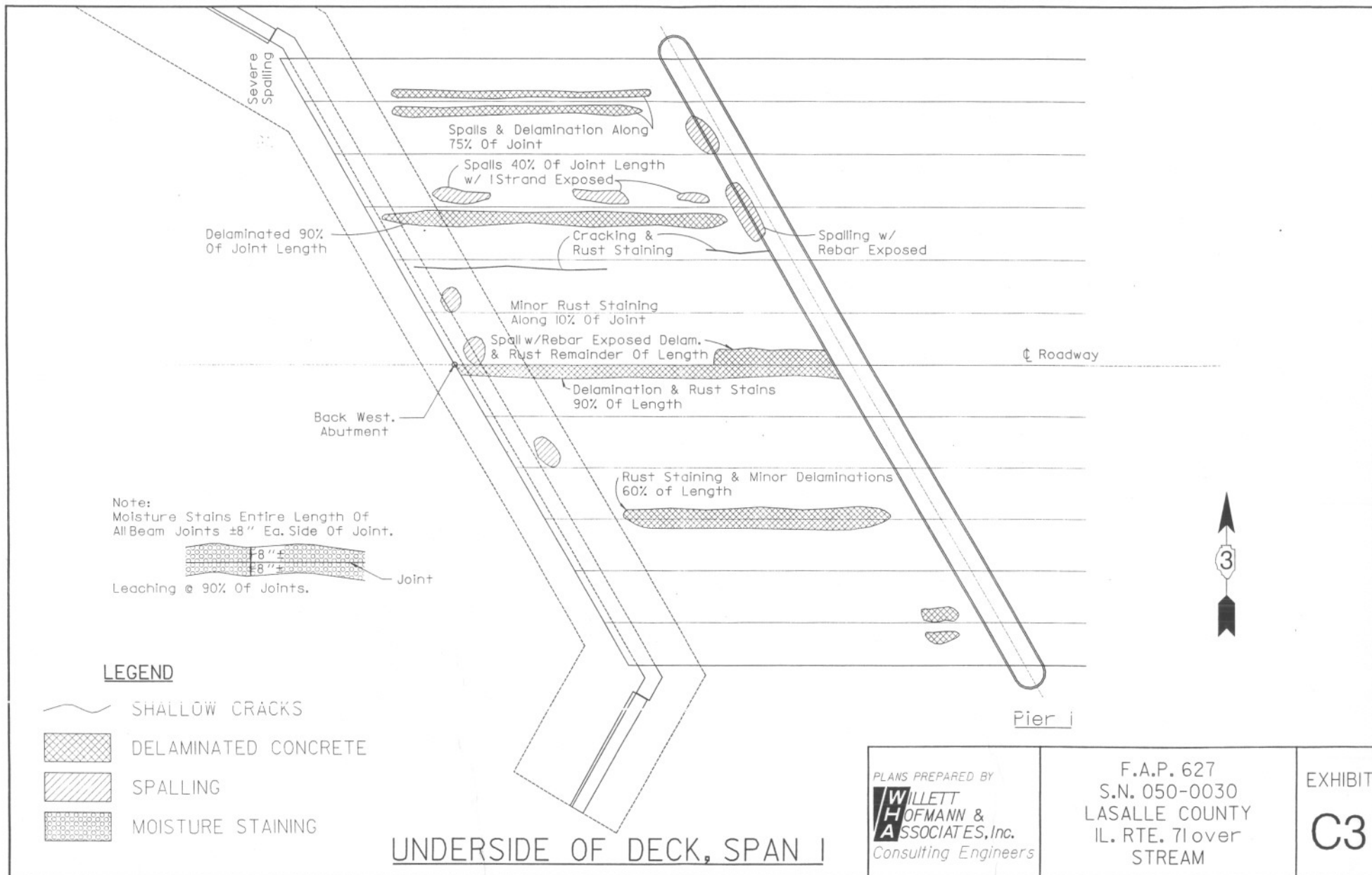
~~~~~ Cracking In Overlay

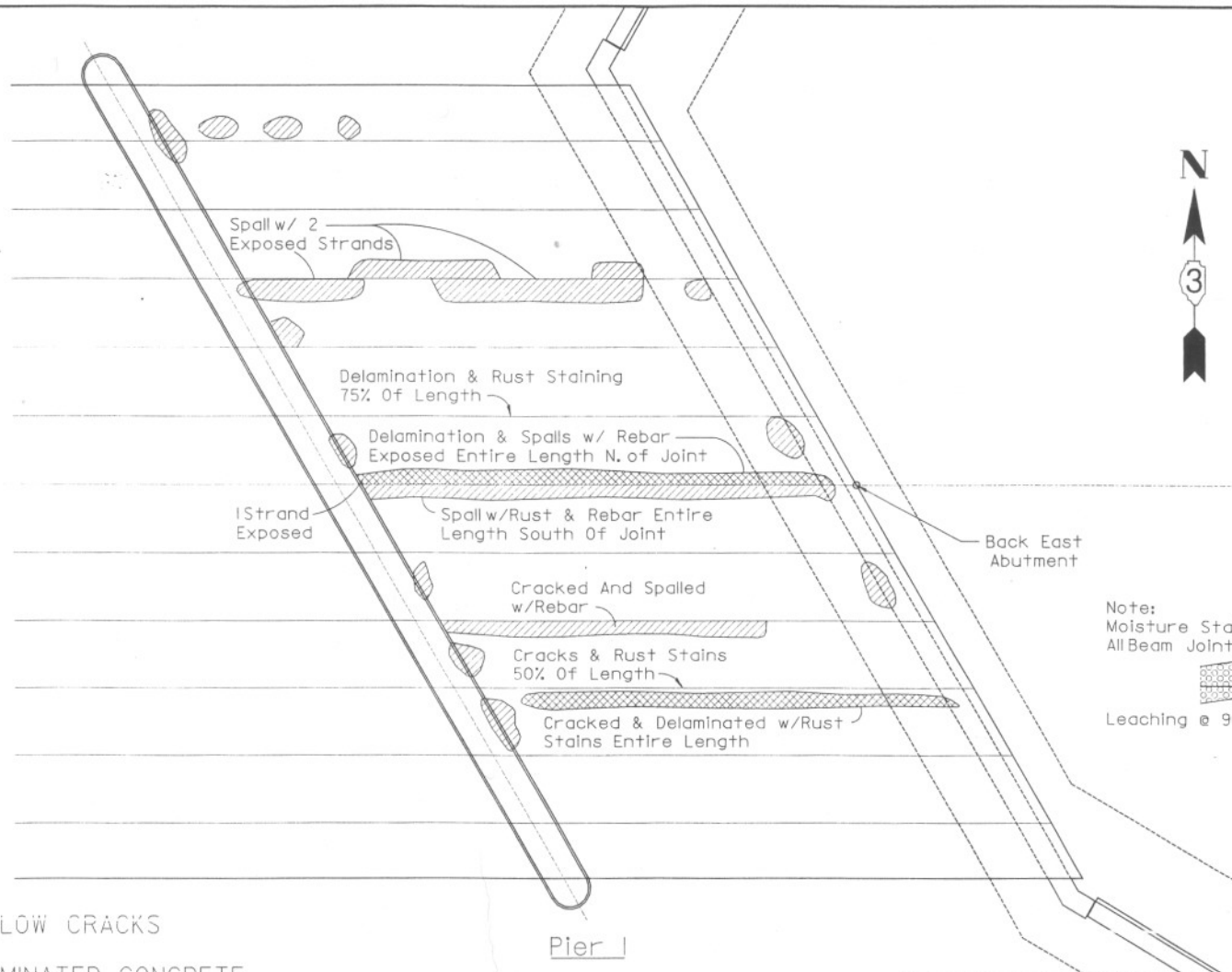
TOP OF DECK, SPAN 2

PLANS PREPARED BY  
**WILLET**  
**HOFMANN &**  
**ASSOCIATES, Inc.**  
 Consulting Engineers

F.A.P. 627  
 S.N. 050-0030  
 LASALLE COUNTY  
 IL. RTE. 71 over  
 STREAM

EXHIBIT  
**C2**









Note:  
Moisture Stains Entire Length Of  
All Beam Joints  $\pm 8"$  Ea. Side Of Joint.

Leaching @ 90% Of Joints.

# LEGEND

-  SHALLOW CRACKS
-  DELAMINATED CONCRETE
-  SPALLING
-  MOISTURE STAINING

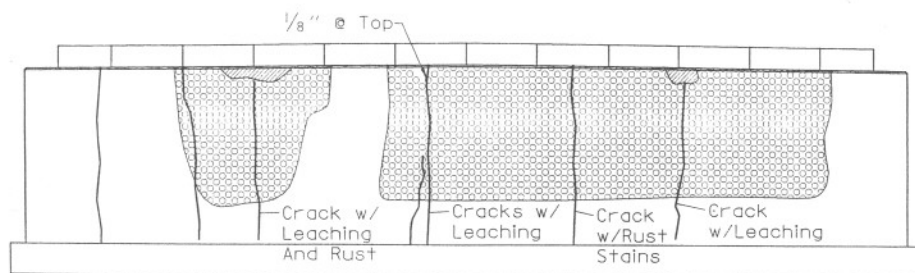
## UNDERSIDE OF DECK, SPAN 2

PLANS PREPARED BY  
**WILLET  
HOFMANN &  
ASSOCIATES, Inc.**  
Consulting Engineers

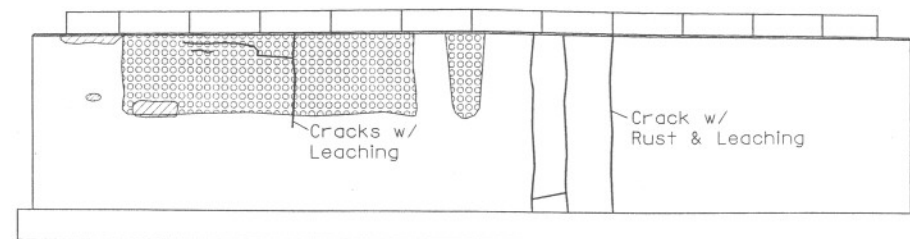
F.A.P. 627  
S.N. 050-0030  
LASALLE COUNTY  
IL. RTE. 71 over  
STREAM

EXHIBIT  
**C4**








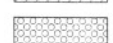
West Elevation  
(Looking East)



East Elevation  
(Looking West)

## PIER 1 ELEVATION

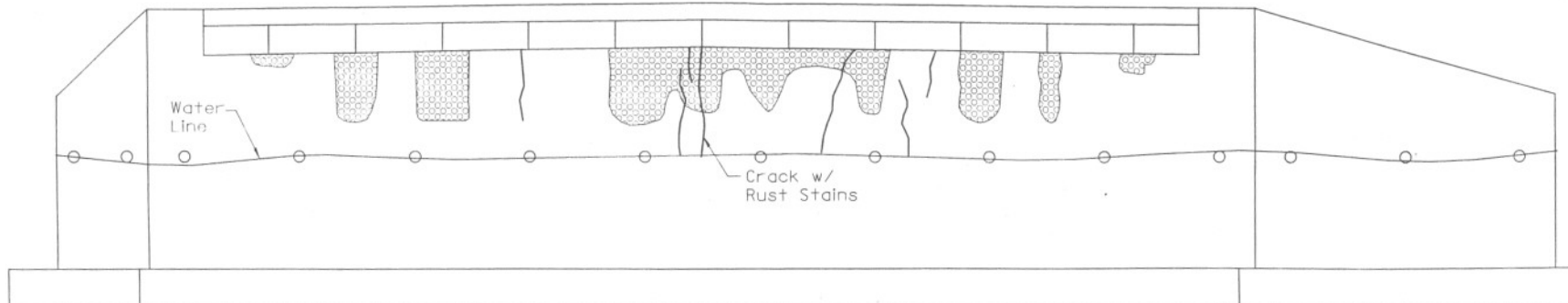
### LEGEND

-  SHALLOW CRACKS
-  DELAMINATED CONCRETE
-  SPALLING
-  MOISTURE STAINING

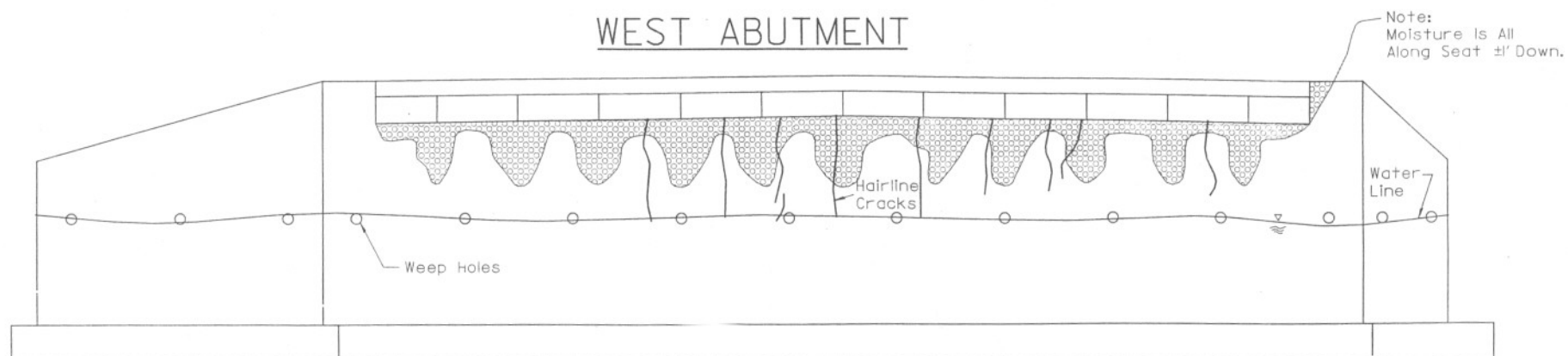
PLANS PREPARED BY  
**WILLETT**  
**HOFMANN &**  
**ASSOCIATES, Inc.**  
Consulting Engineers

F.A.P. 627  
S.N. 050-0030  
LASALLE COUNTY  
IL. RTE. 71 over  
STREAM





EXHIBIT  
**C5**



## WEST ABUTMENT



### LEGEND

-  SHALLOW CRACKS
-  DELAMINATED CONCRETE
-  SPALLING
-  MOISTURE STAINING

## EAST ABUTMENT



PLANS PREPARED BY  
**WILLET**  
**HOFMANN &**  
**ASSOCIATES, Inc.**  
 Consulting Engineers

F.A.P. 627  
 S.N. 050-0030  
 LASALLE COUNTY  
 IL. RTE. 71 over  
 STREAM

EXHIBIT

C6

## **APPENDIX D**

### Photographs



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



### COMMENTS

1) Structure Number



### COMMENTS

2) Nameplate



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

3) Typical Bridge Rail



### COMMENTS

4) Map Cracking at North Rail Center Joint, Typical Each Side



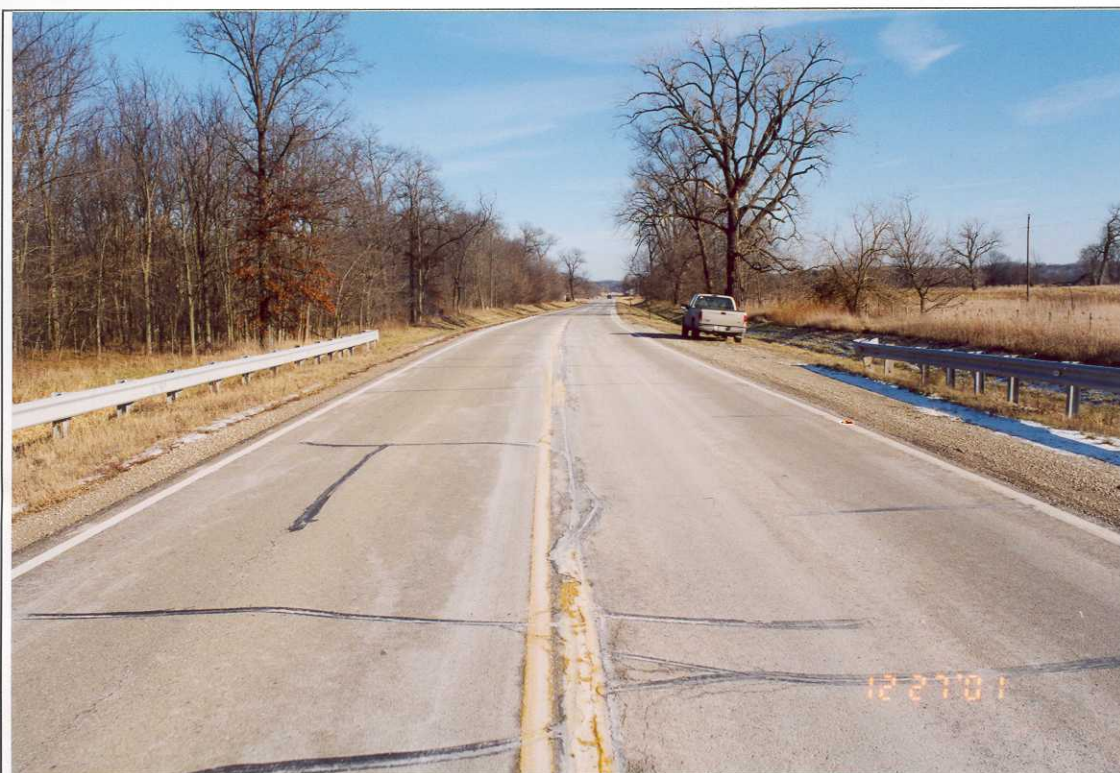
## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

5) Map Cracking of North Rail, East End, Typical All 4 Ends



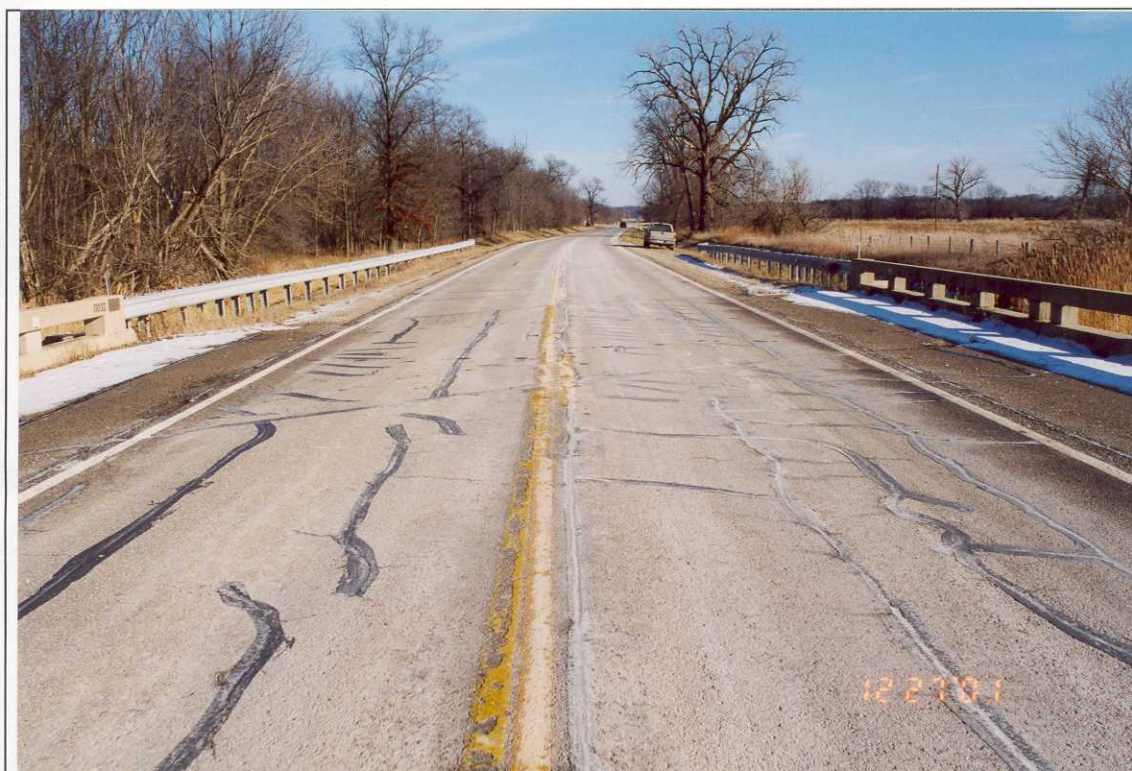
### COMMENTS

6) Looking East at Approach Roadway, 30' From Abutment



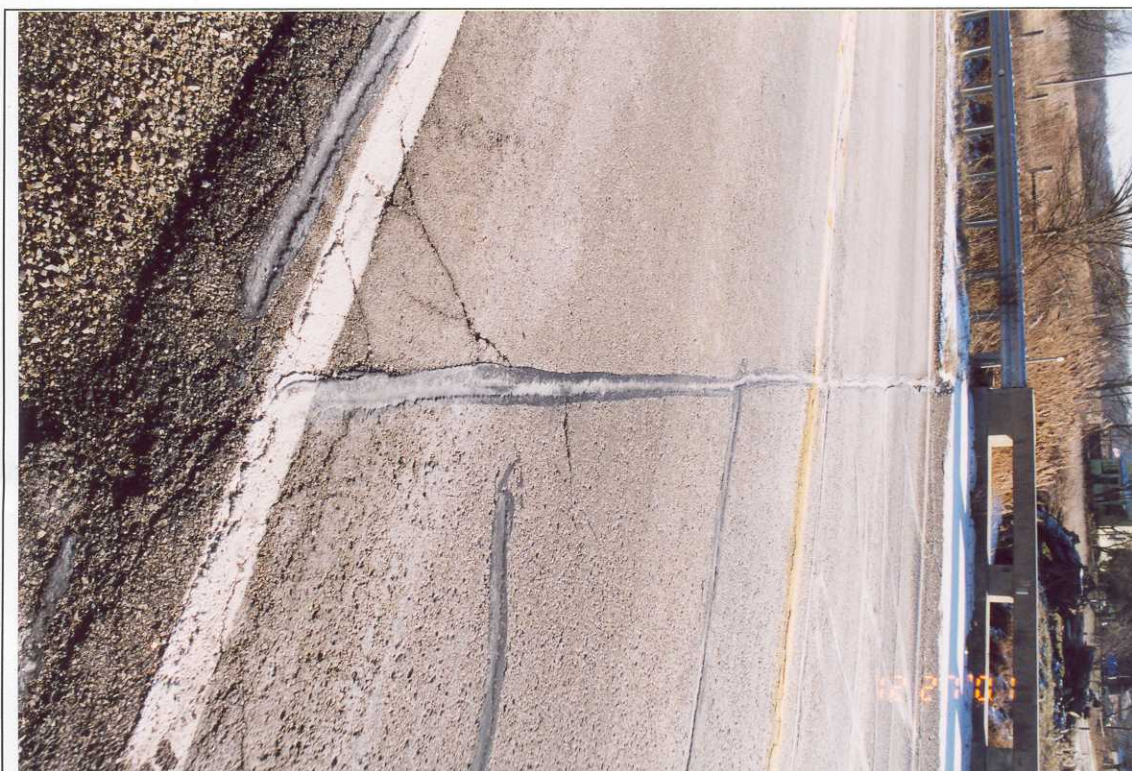
## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

7) Looking East Across Structure at Abutment



### COMMENTS

8) Joint at East Abutment



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

9) East Bound Lane, Span 1, Deck Looking East



### COMMENTS

10) East Bound Lane, Span 2, Deck Looking East



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

11) East Bound Shoulder, Span 1, Looking East



### COMMENTS

12) East Bound Shoulder, Span 2, Looking East



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



**COMMENTS**

13) Joint at Pier 1



**COMMENTS**

14) West Bound Lane, Span 2, Looking West



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

15) West Bound Shoulder, Span 2, Looking West



### COMMENTS

16) West Bound Lane, Span 1, Looking West



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

17) West Bound Shoulder, Span 1, Looking West



### COMMENTS

18) Joint at West Abutment



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

19) Looking West Across Structure, 30' From Abutment



### COMMENTS

20) Looking West at Approach Roadway, 30' From Abutment



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

21) Looking West Across Structure at Abutment



### COMMENTS

22) Southwest Corner of Structure



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

23) Southwest Quad and Ditch



### COMMENTS

24) Northwest Corner of Structure



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

25) Northwest Quad and Ditch



### COMMENTS

26) Southeast Corner of Structure



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report

### COMMENTS



27) Southeast Quad and Ditch

### COMMENTS



28) Northeast Corner of Structure



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

29) Northeast Quad and Ditch



### COMMENTS

30) Looking South at Span 2, (Eastern Most Span)



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

19) Looking West Across Structure, 30' From Abutment



### COMMENTS

20) Looking West at Approach Roadway, 30' From Abutment



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



**COMMENTS**

33) Looking North at Structure (From Upstream Side)



**COMMENTS**

34) East Abutment, Showing Cracks and Moisture Stains



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



### COMMENTS

35) East Abutment Showing Cracks and Moisture Stains



### COMMENTS

36) East Abutment Showing Cracks and Moisture Stains



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

37) East Abutment Showing Cracks and Moisture Stains



### COMMENTS

38) East Abutment Showing Cracks and Moisture Stains



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



### COMMENTS

39) Delaminations, Rust, and Leaching, 1<sup>st</sup> Joint From North, Span 1



### COMMENTS

40) Spalling at Pier of 2<sup>nd</sup> Beam From North, Span 1



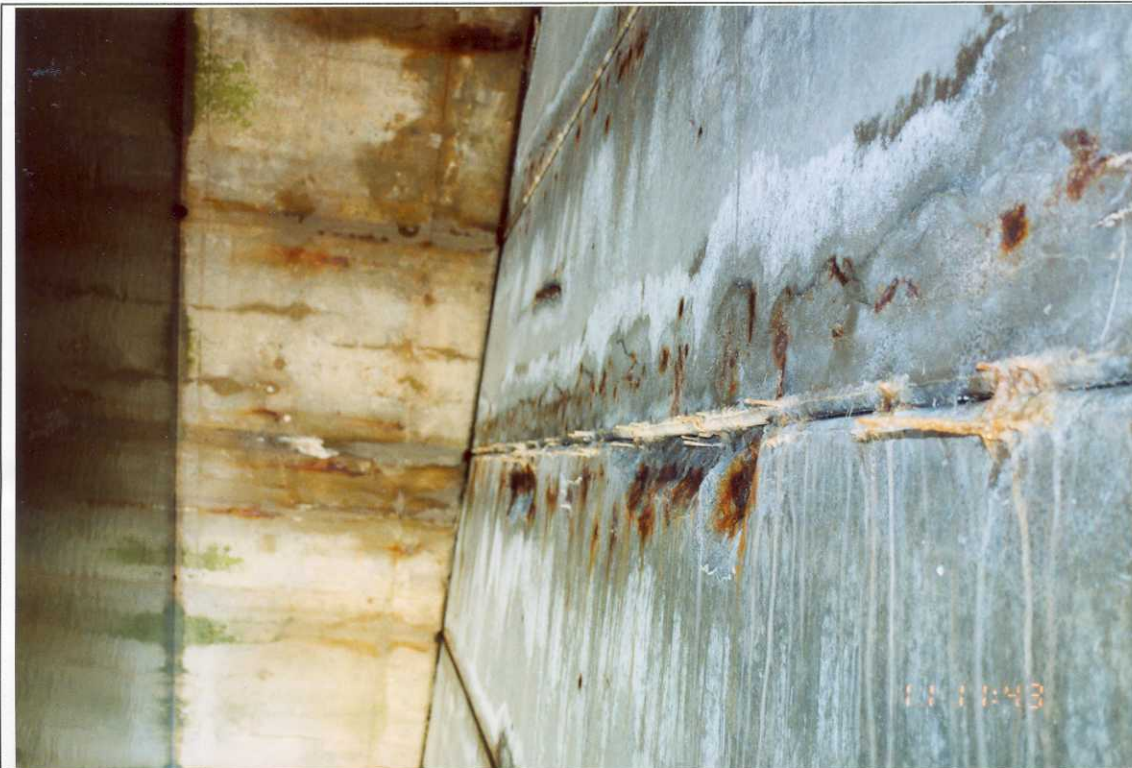
## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

41) Spalling at Pier of 3<sup>rd</sup> and 4<sup>th</sup> Beams from North, Span 1



### COMMENTS

42) Spalling and Delaminations Along 3<sup>rd</sup> Joint From North, Span 1



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

43) Spalling at West Abutment 6<sup>th</sup> Beam From North, Span 1



### COMMENTS

44) Spalling and Delaminations Near Pier, 6<sup>th</sup> and 7<sup>th</sup> Beams From the South, Span 1



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

45) South 1/3 Pier West Face



### COMMENTS

46) North 1/3 Pier West Face



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



### COMMENTS

47) Center 1/3 Pier West Face



### COMMENTS

48) Spall at Top West Face of Pier, Crack at Joint of 3<sup>rd</sup> and 4<sup>th</sup> Beams From South



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



### COMMENTS

49) 1/8 Crack with Rust and Leaching Under 6<sup>th</sup> Beam From South, West Face of Pier



### COMMENTS

50) Crack with Leaching, West Face of Pier at Joint of 3<sup>rd</sup> and 4<sup>th</sup> Beams From North



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

51) North 1/2 East Face of Pier



### COMMENTS

52) South 1/2 East Face of Pier



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



**COMMENTS**

53) Spalling Under 1<sup>st</sup> Beam From North, East Face of Pier



**COMMENTS**

54) Spalling at Ground Line, North End, East Face of Pier



## PHOTOGRAPHS FOR

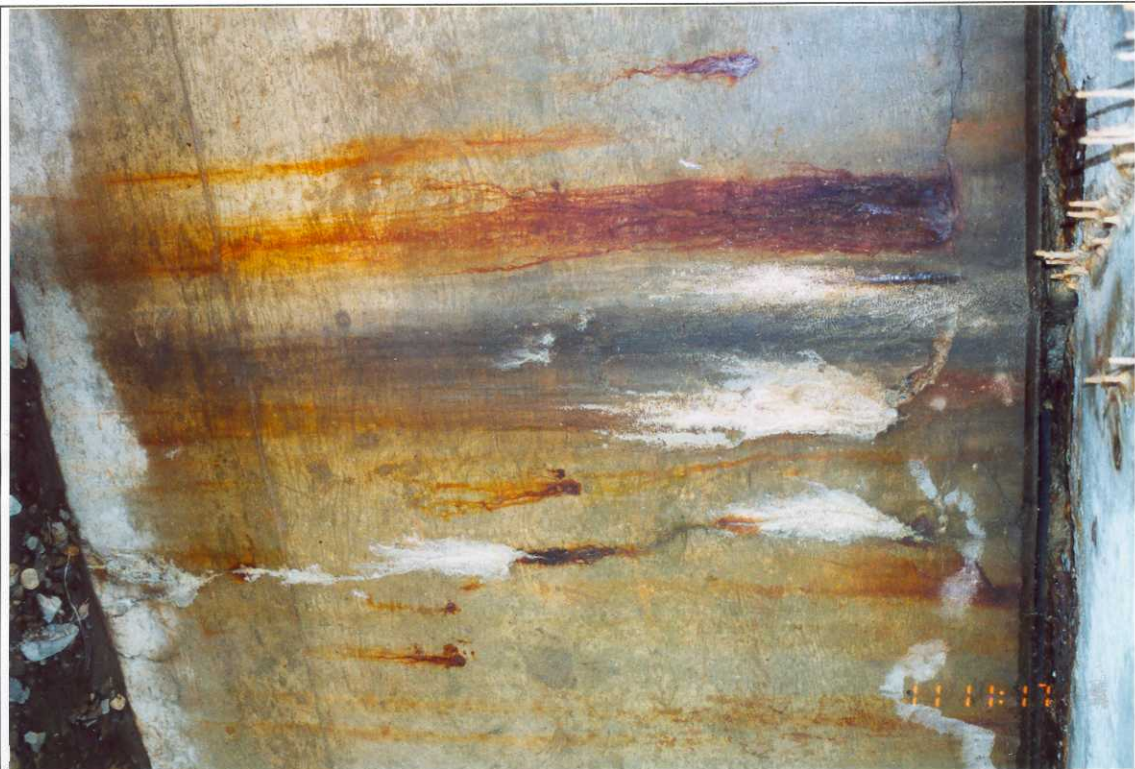
|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

Note Moisture.

55) Horizontal Cracks at Top of East Face Below 3<sup>rd</sup> Beam From North



### COMMENTS

Note Moisture.

56) Vertical Cracks East Face of Pier Under 4<sup>th</sup> Beam From the North



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



### COMMENTS

57) Spalling at Pier 1<sup>st</sup> and 2<sup>nd</sup> Beams From North, Span 2



### COMMENTS

58) Spalling at Pier 4<sup>th</sup> Beam from North, Span 2



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

59) Spalling Along 3<sup>rd</sup> Joint From North, Span 2



### COMMENTS

60) Spalling Along 6<sup>th</sup> Joint From North (Looking East) Span 2



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

61) Spalling Along 6<sup>th</sup> Joint From North (Looking West) Span 2



### COMMENTS

62) Spalling at Pier of 4<sup>th</sup> and 5<sup>th</sup> Beams From South, Span 2



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

63) Spalling and Cracking Along 4<sup>th</sup> Joint From South, Span 2



### COMMENTS

64) Spalling at Abutment 7<sup>th</sup> Beam From South, Span 2



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



### COMMENTS

65) Typical Moisture Staining and Cracking of West Abutment



### COMMENTS

66) Showing Typical Moisture Staining and Cracking of West Abutment



## PHOTOGRAPHS FOR

FAP 627 (IL 71) over Intermittent Stream

LaSalle County

Existing S.N. 050-0030

Illinois Department of Transportation, District 3

Bridge Condition Report



**COMMENTS**

67) West Abutment



**COMMENTS**

68) West Abutment



## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

69) West Abutment



### COMMENTS

70) Show Typical Moisture Staining at Abutment

## PHOTOGRAPHS FOR

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| FAP 627 (IL 71) over Intermittent Stream | LaSalle County                                    |
| Existing S.N. 050-0030                   | Illinois Department of Transportation, District 3 |
| Bridge Condition Report                  |                                                   |



### COMMENTS

71) Show Typical Moisture Staining at Abutment



## **APPENDIX E**

Cost Estimates  
Stage Construction Sections

**ALTERNATE 1  
COST ESTIMATE  
SUPERSTRUCTURE REPLACEMENT  
STRUCTRE NUMBER 050-0030**

| ITEM                                     | QUANTITY | UNIT  | UNIT PRICE   | COST                 |
|------------------------------------------|----------|-------|--------------|----------------------|
| TRAFFIC CONTROL                          | 1        | L SUM | \$ 40,000.00 | \$ 40,000.00         |
| TEMPORARY CONCRETE BARRIER               | 1000     | FOOT  | \$ 10.50     | \$ 10,500.00         |
| RELOCATE TEMPORARY CONCRETE BARRIER      | 1000     | FOOT  | \$ 2.25      | \$ 2,250.00          |
| REMOVAL OF EXISTING SUPERSTRUCTURES      | 2820     | SQ FT | \$ 8.00      | \$ 22,560.00         |
| CONCRETE REMOVAL                         | 100      | CU YD | \$ 300.00    | \$ 30,000.00         |
| MILLING BITUMINOUS PAVEMENT              | 240      | SQ YD | \$ 3.00      | \$ 720.00            |
| AGGREGATE BASE COURSE                    | 140      | TON   | \$ 16.00     | \$ 2,240.00          |
| BRIDGE APPROACH PAVEMENT                 | 210      | SQ YD | \$ 170.00    | \$ 35,700.00         |
| BITUMINOUS BASE COURSE                   | 90       | TON   | \$ 45.00     | \$ 4,050.00          |
| BITUMINOUS CONCRETE SURFACE COURSE       | 80       | TON   | \$ 60.00     | \$ 4,800.00          |
| SPBGR REMOVAL                            | 400      | FOOT  | \$ 6.00      | \$ 2,400.00          |
| STEEL PLATE BEAM GUARDRAIL, TYPE A       | 400      | FOOT  | \$ 26.00     | \$ 10,400.00         |
| TRAFFIC BARRIER TERMINAL TYPE 6          | 4        | EACH  | \$ 500.00    | \$ 2,000.00          |
| TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL | 4        | EACH  | \$ 750.00    | \$ 3,000.00          |
| TEMPORARY SHEET PILING                   | 2000     | SQ FT | \$ 15.00     | \$ 30,000.00         |
| EMBANKMENT, SHAPING AND GRADING          | 1        | L SUM | \$ 5,000.00  | \$ 5,000.00          |
| BITUMINOUS SHOULDERS                     | 30       | TON   | \$ 60.00     | \$ 1,800.00          |
| AGGREGATE SHOULDERS                      | 110      | TON   | \$ 11.00     | \$ 1,210.00          |
| CONCRETE SUPERSTRUCTURES                 | 123      | CU YD | \$ 900.00    | \$ 110,700.00        |
| CONCRETE STRUCTURES                      | 34       | CU YD | \$ 350.00    | \$ 11,900.00         |
| REINFORCEMENT BARS (EPOXY COATED)        | 25000    | POUND | \$ 1.20      | \$ 30,000.00         |
| FORMED CONCRETE REPAIR                   | 140      | SF    | \$ 62.00     | \$ 8,680.00          |
| EPOXY CRACK SEALING                      | 90       | FOOT  | \$ 50.00     | \$ 4,500.00          |
| BRIDGE APPROACH PAVEMENT REMOVAL         | 210      | SQ YD | \$ 80.00     | \$ 16,800.00         |
| SETTING PILES IN ROCK                    | 7        | EACH  | \$ 2,000.00  | \$ 14,000.00         |
| COFFERDAMS                               | 1        | EACH  | \$ 30,000.00 | \$ 30,000.00         |
| BRIDGE DECK GROOVING                     | 204      | SQ YD | \$ 9.00      | \$ 1,836.00          |
| DECK DRAINS                              | 8        | EACH  | \$ 25.00     | \$ 200.00            |
| COFFERDAM EXCAVATION                     | 60       | CU YD | \$ 20.00     | \$ 1,200.00          |
| TEMP BRACING OF EXISTING ABUTMENTS       | 1        | L SUM | \$ 5,000.00  | \$ 5,000.00          |
| <b>TOTAL REHABILITATION COST</b>         |          |       |              | <b>\$ 392,946.00</b> |

**ALTERNATE 2**  
**COST ESTIMATE**  
**STRUCTURE REPLACEMENT - CLOSED ABUTMENTS**  
**STRUCTRE NUMBER 050-0030**

| ITEM                                     | QUANTITY | UNIT  | UNIT PRICE   | COST                 |
|------------------------------------------|----------|-------|--------------|----------------------|
| TRAFFIC CONTROL                          | 1        | L SUM | \$ 40,000.00 | \$ 40,000.00         |
| TEMPORARY CONCRETE BARRIER               | 1000     | FOOT  | \$ 10.50     | \$ 10,500.00         |
| RELOCATE TEMPORARY CONCRETE BARRIER      | 1000     | FOOT  | \$ 2.25      | \$ 2,250.00          |
| REMOVAL OF EXISTING SUPERSTRUCTURES      | 2820     | SQ FT | \$ 8.00      | \$ 22,560.00         |
| CONCRETE REMOVAL                         | 500      | CU YD | \$ 300.00    | \$ 150,000.00        |
| MILLING BITUMINOUS PAVEMENT              | 240      | SQ YD | \$ 3.00      | \$ 720.00            |
| AGGREGATE BASE COURSE                    | 140      | TON   | \$ 16.00     | \$ 2,240.00          |
| BRIDGE APPROACH PAVEMENT                 | 210      | SQ YD | \$ 170.00    | \$ 35,700.00         |
| BITUMINOUS BASE COURSE                   | 90       | TON   | \$ 45.00     | \$ 4,050.00          |
| BITUMINOUS CONCRETE SURFACE COURSE       | 80       | TON   | \$ 60.00     | \$ 4,800.00          |
| SPBGR REMOVAL                            | 400      | FOOT  | \$ 6.00      | \$ 2,400.00          |
| STEEL PLATE BEAM GUARDRAIL, TYPE A       | 400      | FOOT  | \$ 26.00     | \$ 10,400.00         |
| TRAFFIC BARRIER TERMINAL TYPE 6          | 4        | EACH  | \$ 500.00    | \$ 2,000.00          |
| TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL | 4        | EACH  | \$ 750.00    | \$ 3,000.00          |
| TEMPORARY SHEET PILING                   | 2000     | SQ FT | \$ 15.00     | \$ 30,000.00         |
| EMBANKMENT, SHAPING AND GRADING          | 1        | L SUM | \$ 5,000.00  | \$ 5,000.00          |
| BITUMINOUS SHOULDERS                     | 30       | TON   | \$ 60.00     | \$ 1,800.00          |
| AGGREGATE SHOULDERS                      | 110      | TON   | \$ 11.00     | \$ 1,210.00          |
| CONCRETE SUPERSTRUCTURES                 | 139      | CU YD | \$ 900.00    | \$ 125,100.00        |
| CONCRETE STRUCTURES                      | 340      | CU YD | \$ 350.00    | \$ 119,000.00        |
| REINFORCEMENT BARS (EPOXY COATED)        | 60000    | POUND | \$ 1.20      | \$ 72,000.00         |
| ROCK EXCAVATION                          | 25       | CU YD | \$ 75.00     | \$ 1,875.00          |
| COFFERDAMS                               | 3        | EACH  | \$ 30,000.00 | \$ 90,000.00         |
| BRIDGE APPROACH PAVEMENT REMOVAL         | 210      | SQ YD | \$ 80.00     | \$ 16,800.00         |
| SETTING PILES IN ROCK                    | 7        | EACH  | \$ 2,000.00  | \$ 14,000.00         |
| BRIDGE DECK GROOVING                     | 217      | SQ YD | \$ 9.00      | \$ 1,953.00          |
| DECK DRAINS                              | 8        | EACH  | \$ 25.00     | \$ 200.00            |
| COFFERDAM EXCAVATION                     | 310      | CU YD | \$ 20.00     | \$ 6,200.00          |
| CHANNEL EXCAVATION                       | 200      | CU YD | \$ 15.00     | \$ 3,000.00          |
| <b>TOTAL REPLACEMENT COST</b>            |          |       |              | <b>\$ 778,758.00</b> |

REHABILITATION COST/REPLACEMENT COST = 50.5%

**EXHIBIT**  
**E2**

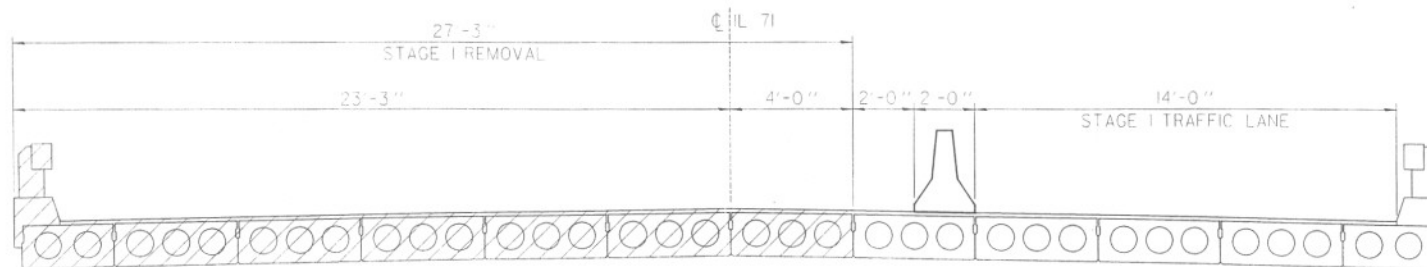


ALTERNATE 3  
COST ESTIMATE  
STRUCTURE REPLACEMENT - SPILL-THRU ABUTMENTS  
STRUCTRE NUMBER 050-0030

| ITEM                                     | QUANTITY | UNIT  | UNIT PRICE   | COST          |
|------------------------------------------|----------|-------|--------------|---------------|
| TRAFFIC CONTROL                          | 1        | L SUM | \$ 40,000.00 | \$ 40,000.00  |
| TEMPORARY CONCRETE BARRIER               | 1000     | FOOT  | \$ 10.50     | \$ 10,500.00  |
| RELOCATE TEMPORARY CONCRETE BARRIER      | 1000     | FOOT  | \$ 2.25      | \$ 2,250.00   |
| REMOVAL OF EXISTING SUPERSTRUCTURES      | 2820     | SQ FT | \$ 8.00      | \$ 22,560.00  |
| CONCRETE REMOVAL                         | 500      | CU YD | \$ 300.00    | \$ 150,000.00 |
| MILLING BITUMINOUS PAVEMENT              | 240      | SQ YD | \$ 3.00      | \$ 720.00     |
| AGGREGATE BASE COURSE                    | 140      | TON   | \$ 16.00     | \$ 2,240.00   |
| BRIDGE APPROACH PAVEMENT                 | 210      | SQ YD | \$ 170.00    | \$ 35,700.00  |
| BITUMINOUS BASE COURSE                   | 90       | TON   | \$ 45.00     | \$ 4,050.00   |
| BITUMINOUS CONCRETE SURFACE COURSE       | 80       | TON   | \$ 60.00     | \$ 4,800.00   |
| SPBGR REMOVAL                            | 400      | FOOT  | \$ 6.00      | \$ 2,400.00   |
| STEEL PLATE BEAM GUARDRAIL, TYPE A       | 400      | FOOT  | \$ 26.00     | \$ 10,400.00  |
| TRAFFIC BARRIER TERMINAL TYPE 6          | 4        | EACH  | \$ 500.00    | \$ 2,000.00   |
| TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL | 4        | EACH  | \$ 750.00    | \$ 3,000.00   |
| TEMPORARY SHEET PILING                   | 2000     | SQ FT | \$ 15.00     | \$ 30,000.00  |
| EMBANKMENT, SHAPING AND GRADING          | 1        | L SUM | \$ 5,000.00  | \$ 5,000.00   |
| BITUMINOUS SHOULDERS                     | 30       | TON   | \$ 60.00     | \$ 1,800.00   |
| AGGREGATE SHOULDERS                      | 110      | TON   | \$ 11.00     | \$ 1,210.00   |
| CONCRETE SUPERSTRUCTURES                 | 200      | CU YD | \$ 900.00    | \$ 180,000.00 |
| CONCRETE STRUCTURES                      | 56       | CU YD | \$ 350.00    | \$ 19,600.00  |
| REINFORCEMENT BARS (EPOXY COATED)        | 41000    | POUND | \$ 1.20      | \$ 49,200.00  |
| STRUCTURE EXCAVATION                     | 120      | CU YD | \$ 15.00     | \$ 1,800.00   |
| COFFERDAMS                               | 1        | EACH  | \$ 30,000.00 | \$ 30,000.00  |
| STONE DUMPED RIP RAP CLASS A5            | 375      | SQ YD | \$ 30.00     | \$ 11,250.00  |
| BRIDGE APPROACH PAVEMENT REMOVAL         | 210      | SQ YD | \$ 80.00     | \$ 16,800.00  |
| SETTING PILES IN ROCK                    | 26       | EACH  | \$ 2,000.00  | \$ 52,000.00  |
| BRIDGE DECK GROOVING                     | 270      | SQ YD | \$ 9.00      | \$ 2,430.00   |
| DECK DRAINS                              | 14       | EACH  | \$ 25.00     | \$ 350.00     |
| COFFERDAM EXCAVATION                     | 60       | CU YD | \$ 20.00     | \$ 1,200.00   |
| CHANNEL EXCAVATION                       | 200      | CU YD | \$ 15.00     | \$ 3,000.00   |
| <b>TOTAL REPLACEMENT COST</b>            |          |       |              | \$ 696,260.00 |

REHABILITATION COST/REPLACEMENT COST = 56.4%

EXHIBIT  
**E3**

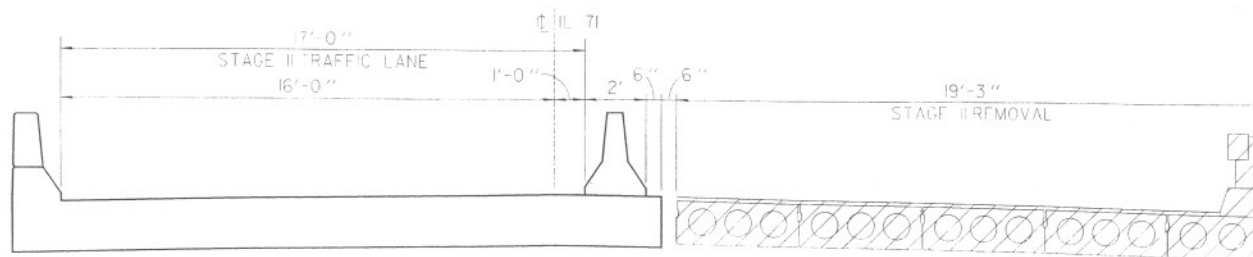


# STAGE I CONSTRUCTION

PLANS PREPARED BY  
**WILLET**  
**HOFMANN &**  
**ASSOCIATES, Inc.**  
 Consulting Engineers

F.A.P. ROUTE 627  
 S.N. 050-0030  
 LASALLE COUNTY  
 IL. RTE 71 over STREAM

EXHIBIT  
**E4**



## STAGE II CONSTRUCTION

PLANS PREPARED BY  
**WILLET**  
**HOFMANN &**  
**A ASSOCIATES, Inc.**  
 Consulting Engineers

F.A.P. ROUTE 627  
 S.N. 050-0030  
 LASALLE COUNTY  
 IL. RTE 71 over STREAM

EXHIBIT  
**E5**